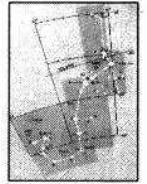




SCORPIUS



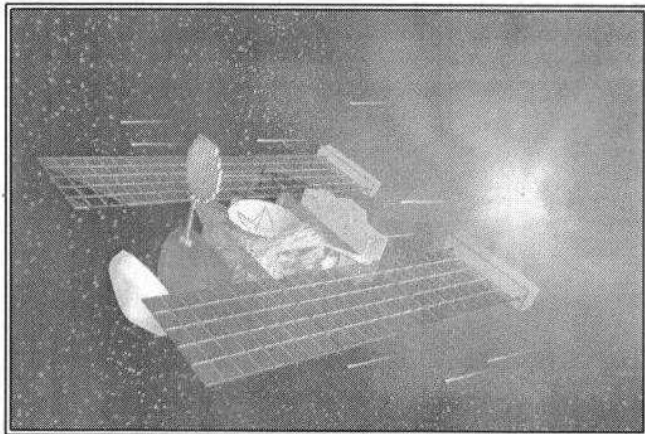
The Journal of the
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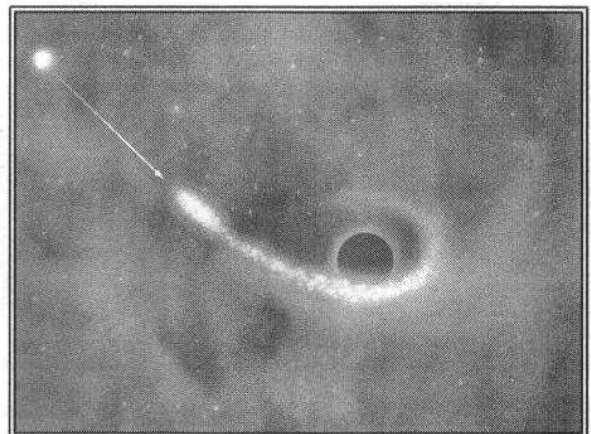
Volume XV, No. 1 (March 2006)

The Morningside 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.

**Stardust delivers
its collected comet dust**



**In a spin near
a black hole**



Plus :

Ocean floor reveals ancient asteroid impact
The AWF gets concrete and power
Night skies for March and April
NACAA in Easter

March / April field nights and events

3rd March – Public viewing night at Briars
15th March – General Meeting
18th March – KB Scope Day at Briars
25th March – Astronomy Class
25th March – Solar Day at Briars
25th March – Members viewing night at Briars

7th April - Public viewing night at Briars
14th to 17th April – NACAA at the International
19th April – General Meeting

Society News

November AGM

The AGM was held in the Common Room at the Peninsula School on November 16th 2005. The president Peter Lowe chaired the meeting which had thirty five people attend. Peter presented his presidents report followed by Marty Rudd with the 04/05 treasurers report.

Peter then declared all committee positions void. Nominations were asked for and then were shown for the positions to be filled on the 2006 MPAS committee. Nominations were then accepted and the positions were elected.

Bob Heale did his 'Sky for the Month', then Peter (newly re-elected President) Lowe, declared the AGM closed.

2006 Committee

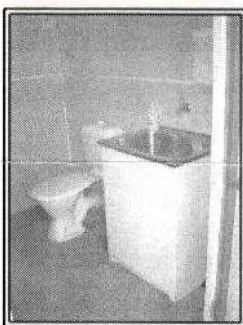
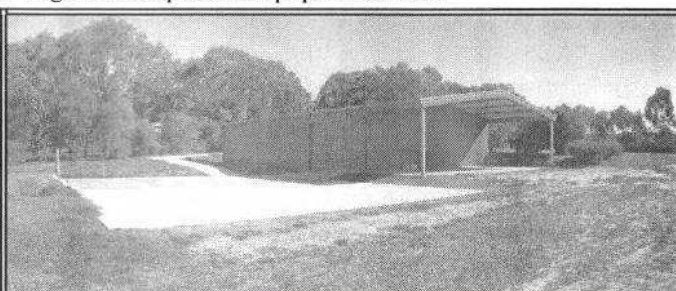
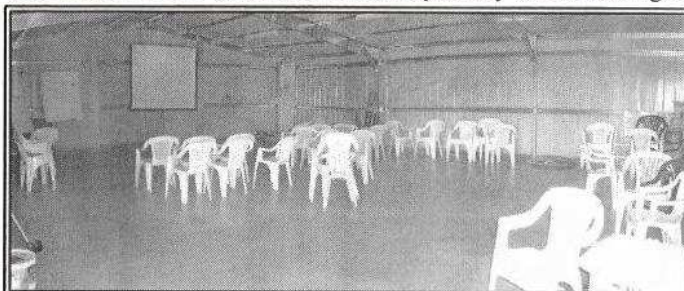
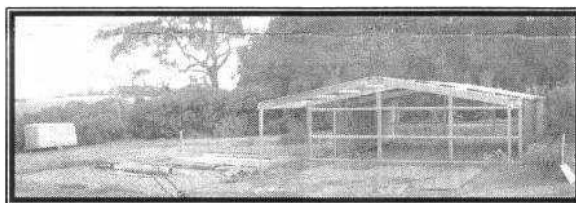
The Annual General Meeting was held in November last year and saw the election of the 2006 M.P.A.S. committee. The committee elected for 2006 is :

President	:	Peter Lowe	Vice President	:	Ian Sullivan
Secretary	:	Don Leggett	Treasurer	:	Marty Rudd
Committee	:	Peter Skilton			
		Terry Ryan			

The MPAS All Weather Facility

Developments at the MPAS All Weather Facility have been coming along quite nicely over the last couple of months. Since its construction late last year (frame stage photo at right), much work has gone on at the site.

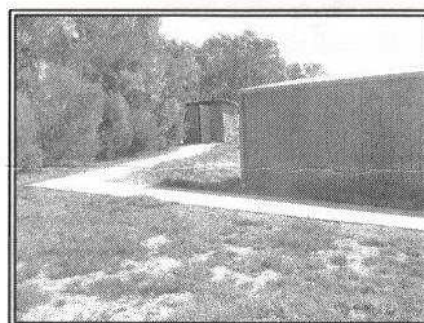
A lot of concrete work has been done at the site with the AWF now having a great concrete floor, as well as under the garaport. Both of which were sealed during a working bee in January. The main viewing slab has been doubled in size so now there is plenty of room to set up your telescope and view from. A concrete ramp with a slight incline joins the main viewing slab and the AWF slab via the roller door. This allows easy access from the main slab into the AWF (and vice versa), especially when moving the larger telescopes and equipment about.



The top small shed has been converted into 'amenities block', so to speak, with a fully plumbed and wash sink. No more trips down to the Briars centre required. A concrete path even shows you the way there, joining from the Main Viewing Slab all the way to the toilet block.

Currently, an electrician is up at the site power and lighting. A light is being put in the toilet (very handy). Specialty lighting and plenty of double points are also being installed into the AWF itself, as an additional outdoor weather proof double power

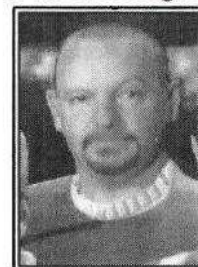
around the Main Viewing Slab. Power is also going to be reconnected to the lower wooden shed.



an
toilet
tourist
way
to the

adding
block
power
well as
point

The Committee of 2006 would like to thank all of the volunteers who assisted in the running of the Mornington Peninsula Astronomical Society over the past year. If it wasn't for the time and effort put in by these members then many of the school and public viewing nights as well as society events staged during 2005 would not have been able to take place. Thanks also goes out to the many members who have assisted with work at the Briars site during working bees. Volunteers make up an integral part in the running of the society and members are encouraged to take part in assisting with events and working bees whenever they are able to. Working bees and volunteer assisted events are publicised on the 'What's On' flyer and in the 'Scorpius' newsletter so if you see an event you think you can help with then by all means contact the relevant event organiser or a member of Committee. Thanks also goes to Richard Pollard (looking very astute at the right) for the marvellous job he has done at developing the Power Point presentations which are shown at public viewing nights.



NACAA

On February 14th, we were informed that the venue where NACAA was to be held was closing on March 30th. Understandably, seeing NACAA is drawing very close, this event put the team organising NACAA 2006 into a bit of a dilemma. Could a new venue be found in time. Well, the team have done a great job and have managed to find a new venue for NACAA, and its just down the road from the previous venue. NACAA is now to be held at the **Frankston International Hotel** located at 389 Nepean Highway in Frankston. It should be noted that some room rates may vary from those quoted for the Ambassador. Due to the venue shift, changes to the programme have been required to fit in with the new venue. The NACAA preliminary programme can be viewed at <http://www.nacaa.org.au/Program.htm>. This is an evolving programme and is being amended frequently so check back often.

At the moment there are eight presentation papers including one by keynote speaker Professor Peter L. Dyson, Head of the Space Physics Research Group, La Trobe University, Bundoora, Victoria. He is presenting a paper titled 'The Earth's Environment in Space'. As well as the paper presentations, another major attraction at the NACAA are posters showing activities and observational results from many amateurs around Australia.

The 22nd National Australian Convention of Amateur Astronomers, NACAA 22, is being hosted by the Morrington Peninsula Astronomical Society Inc. at the Frankston International Hotel in Frankston, Victoria, from April 14th-17th 2006. For all the latest information and booking details go to <http://www.nacaa.org.au/main.htm>.

KB Scope Day

Please note that Scope Day has been moved from the 11th March to Saturday 18th March, still at the Briars.

Solar Day and Members viewing night

The Solar Day event will be held at the Briars for all interested society members from 1:00 pm to 4:00 pm, on Saturday 25th March. The day will include the calculation and observance of sundial noon (approx 1:30 pm) with theory and telescope sunspot viewing, with calculation of the Wolf number (a name for relative sunspot numbers). Have lunch before you come or bring it with you. Bring any solar viewing gear that you may have with you. Call Ian on 9555 6913 with any queries.

Later on in the evening is the members viewing night. This date was selected as it was the most suitable and 'user friendly' due to it being close to the New Moon and thereby taking advantage of the reduced intensity of incident light from our Lunar neighbour. So come along for a great nights viewing (weather permitting) and fire up the BBQ prior to viewing.

Astronomy Class

Astronomy Classes at Morrington Library. SAT March 25th. These classes, run by Ian Sullivan, will be held at the library in Vancouver St, (Melways 104 D10), from 1.00-4.00 pm. Ian will make provision for new students at each session, as well as continuing work for those returning. The cost is \$2 for members and \$5 for non-members (payable on the day). If you wish to attend, please contact Ian at the meeting, or by phone (03 9555 6913).

Telescope for sale



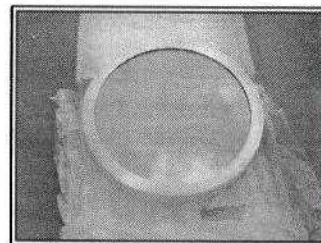
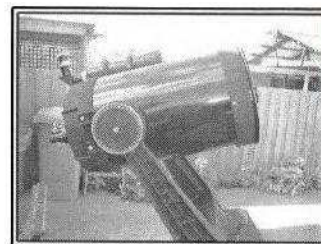
For sale is an early model Celestron C8 F/10 equatorial telescope. The scope and its mirror are in excellent condition. The telescope is also fitted with a Celestron motor worm gear drive, as the instrument was used for taking astrophotographs as well used for general astronomical observing.

The telescope also comes with many accessories including original manuals and counter weights and an 8 x 50 finderscope.

Eyepieces and fittings are all 1/4" and the eyepieces include a 7mm Celestron ocular, 10mm GS-5, a 26mm Celestron Plossl ocular, a star-diagonal and tele-extender as well as two 1/4" eyepiece holders.

Photographic accessories include a T-adaptor and T-mounts for Nikon and Olympus cameras. There are also three filters including a ND-50 and two polarizers. The package also comes with a full aperture solar filter.

Asking price is \$1400.00 ONO so if you are interested in purchasing the telescope or possibly having a look at it then call Dianne on 0412 779 448.



Astronomy 2006

It's that time of year again when the excellent annual Australian publication, **Astronomy 2006**, is available for purchase, and this time its in colour. The book shows what's in the night sky throughout 2006, and is aimed at all levels of amateur astronomer, from newcomer to expert.

Pricing is \$20 to the public, though society members can get it at the discounted rate of \$18.

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.

There's a few left so get in quick before they're sold out.

Astro News

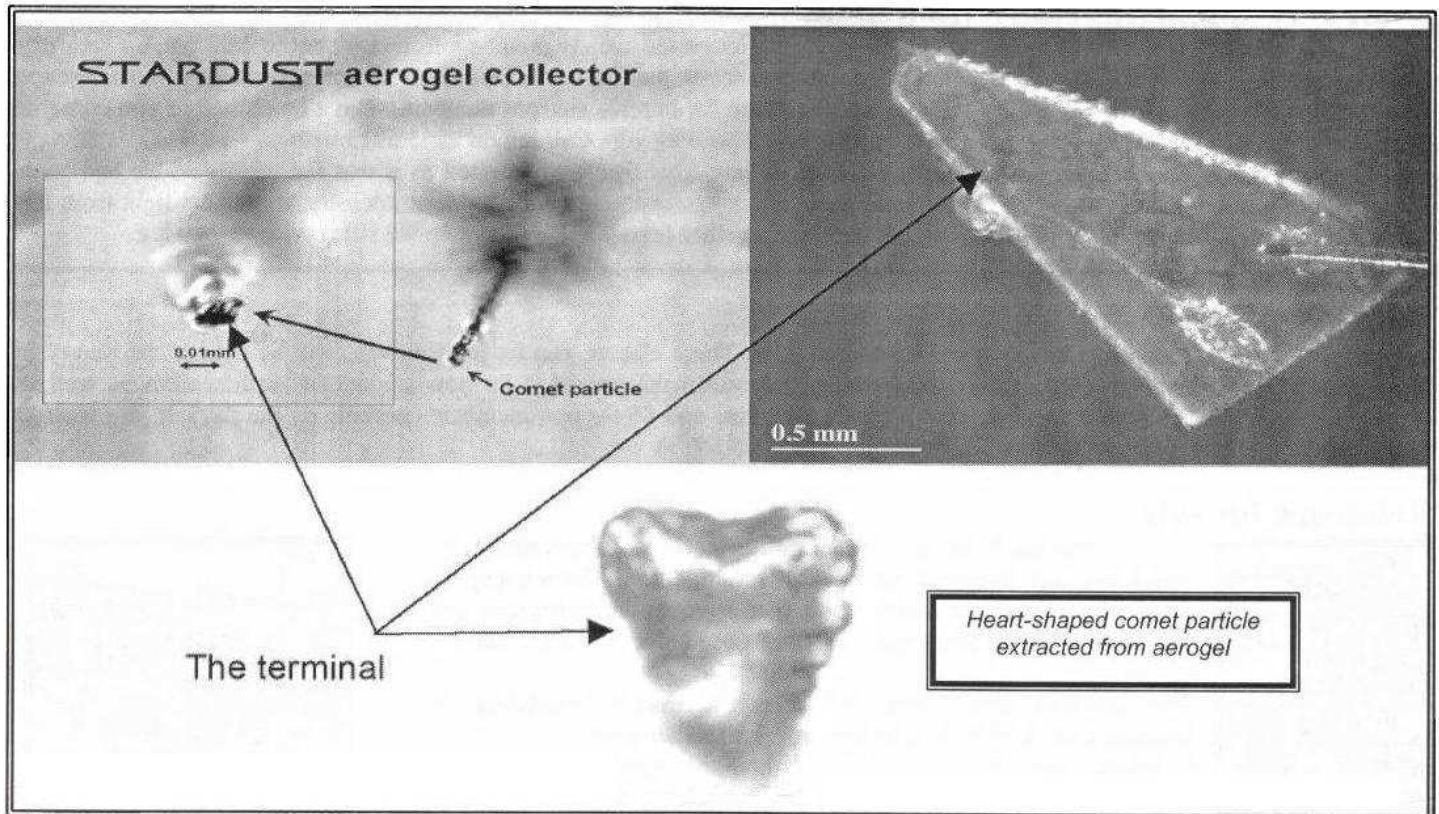
(by Peter Lowe and Marty Rudd)

Stardust Delivers

The successful return of the sample capsule from the Stardust spacecraft certainly heightened tensions at the Johnson Space Centre where the collection tray would be opened. Investigators wondered "Had the collection process worked properly?" and "Did the spacecraft successfully collect cometary particles and interstellar dust from the comet Wild 2?" Any collected particles should have hit a collection aerogel which would slow them down and catch them much as a bullet can be caught in a block of silica gel. To their delight the cometary dust collection gel was pitted with numerous small black holes, some up to 5mm wide. The conical-shaped holes have a large entry hole tapering to a point with a tiny cometary particle resting at the tip. Investigators estimate they have up to a million particles with at least one 1mm diameter particle visible. The only particle closely examined so far is about 11 micron across and appears to be a transparent mineral grain. Before removing particles from the gel, the positions and characteristics of every particle must be mapped after which the aerogel tiles will be removed and distributed around the world for study at various laboratories.

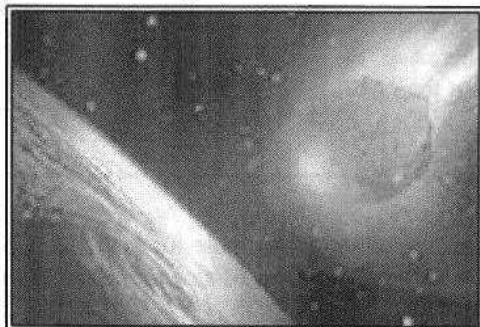
The interstellar dust particles were collected between the orbits of Mars and Jupiter. These minuscule particles are not visible to the eye and investigators estimate they have collected about two hundred dust grains, all less than a micron in size.

Wild 2 is only about 5km in diameter and contains large amounts of volatiles which means it has not seen a lot of solar heating. Vapours found coming off the comet came from ices that had never been hotter than 150 Kelvin so it is hoped these are representative of the sorts of materials present when the Solar System formed.



Ancient Asteroid Collision found on the Ocean Floor

Following two lines of investigation, scientists from Cal.Tech and Southwest Research Institute believe they have found evidence of a massive asteroid collision 8.2 millions years ago. Each year, the Earth collects about 20,000 tonnes of asteroid dust which settles both on the land and ocean floors. Asteroid dust is enriched with Helium-3 and studies of sediments on the ocean floor show a helium-3 spike some five times above normal occurred 8.2 million years ago.



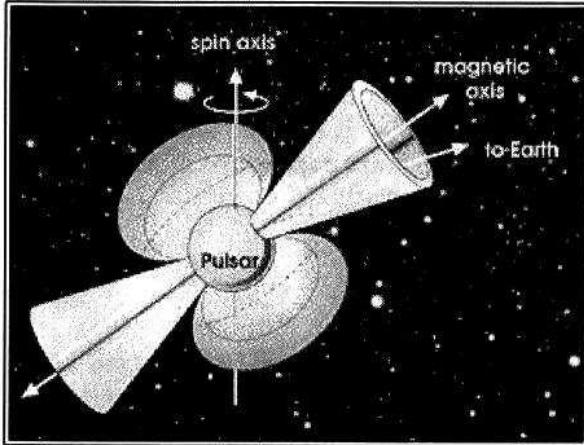
Over the past decades searches of potentially dangerous asteroids have greatly improved our data asteroid orbits. When an asteroid collision occurs fragments are scattered. By retracing the orbits of asteroids these fragments should be seen to "cluster" around any collision site. Using computer simulations to look for examples of such clustering investigators at the Southwest Research Institute found that a 160 kilometre wide asteroid named Veritas smashed into a

larger object and was obliterated around 8.2 million years ago corresponding to the helium-3 spike found in sediments.

This suggests that the collision dramatically enhanced the level of dust in the Solar System which took about 1.5 million years to gradually return to normal levels.

Gravitational Stabilization of Pulsars

Pulsars are the fastest spinning stars known. Neutron stars containing as much mass as the Sun but only about 10km across are known to spin at nearly one revolution per millisecond (0.001 sec). Using X-ray flicker measurements astronomers have been able to directly measure the rotational rates of 11 pulsars and found that none spun faster than 619 rpm. In principle neutron stars can spin up to a few thousand time per second before flying apart however a statistical analysis of the rotation rates measured suggests there is a damping process limiting the maximum spin rate to below 760 rpm.



Millisecond pulsars are founded in a binary star system in which one of the stars has exploded leaving a neutron star behind. As the companion star evolves material is gravitational drawn from the companion onto the neutron star. The additional angular momentum from this captured material spins the neutron star up. If the neutron star was spherical in shape it would just spin faster and faster however the neutron star is not spherical due to the material falling onto its metal crystalline crust. The neutron star effectively “wobbles” in space-time and emits

energy as gravitation waves. An equilibrium is reached when the angular momentum receive from the companion star matches that which is lost as gravitational radiation.

LIGO is a GO

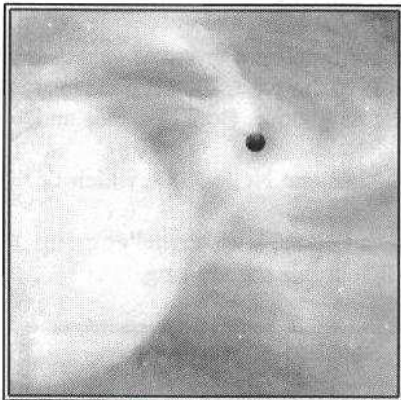
The Laser Interferometer Gravitational Wave Observatory (LIGO) has reached its target sensitivity and has started a year-long continuous observational run. LIGO consists of two linked facilities, one in Hanford, Washington and the other at Livingston, Louisiana. The Laser Interferometer Gravitational-Wave Observatory is a facility dedicated to the detection of cosmic gravitational waves and the harnessing of these waves for scientific research. It consists of two widely separated installations within the United States, operated in unison as a single observatory. The observatory has been running since 2002 at lower sensitivities while it was being commissioned. Its instruments are exquisitely sensitive capable of detecting a sudden distortion in space-time as small as 10^{-18} metres or about one thousand the diameter of a proton. So far nothing of significance has been detected and only serves to push the limits of observation the instrument can detect.

This is not unexpected because ever at the current astounding sensitivity only the brightest or strongest event such as the collision of two super-massive black holes would have been detectable. The next generation of instruments due in 2008 are expected to produce a tenfold improvement in sensitivity which increases the chance of LIGO detecting events by a factor of 1000 because it will bring in smaller events such as collisions between smaller black holes or neutron star collisions or absorptions. To get some feeling for scale, the collision of two near-by neutron stars would vary the distance between the Earth and Moon by a thousandth of an atomic diameter. Now that's what I call sensitive!

Going for a Spin Near a Black Hole

How close to a black hole can you get before things start to get worrying? Astronomers using the Gemini South Telescope in Chile have measured the motion of matter streaming from a galaxy's spiral arms into the grip of its central super massive black hole. These new observations show material as close as 10 light-years from the nucleus. Previous observations have been between 100 – 1000 light-years. Beyond 1000 light years material generally follows the spiral arms orbital path however within that 1000 light-year region things start to speed up to roughly 50 km per second. At about 30 light-years material spinning about the black hole takes about 200,000 years in its death spiral journey to the black hole.

Using a technique known as Integral Field Spectroscopy astronomers can take spectra across the field of the Gemini telescope and simultaneously map the light across the target galaxy which was NGC1097 (right) located some 47 million light-years away in the constellation of Fornax.



Milky Way Supernova Rate

Observations of historic supernova in the Milky way and supernova rates in other spiral galaxies suggests that the average supernova rate in a galaxy is roughly 1 every 50 years. Using the ESA Integral Gamma Ray Observatory astronomers have been able to directly estimate the supernova rate in the Milky Way and confirming the 1 every 50 year visual estimates. The isotope Al26 is extremely rare and mostly produced in massive stars that end their lives in supernovae. By measuring the Doppler shifted gamma rays from Al26 astronomers have been able to show that AL26 is spread throughout the Milky Way and have estimates the rate of production of Al26 from which they could estimate the rate of supernovae. They obtained a rate of one supernovae every 50 years close to the observed visual rate.

We are long overdue for our next supernovae. The last naked eye one observed in the Milky way was by Tycho in 1572

Skywatchers Events

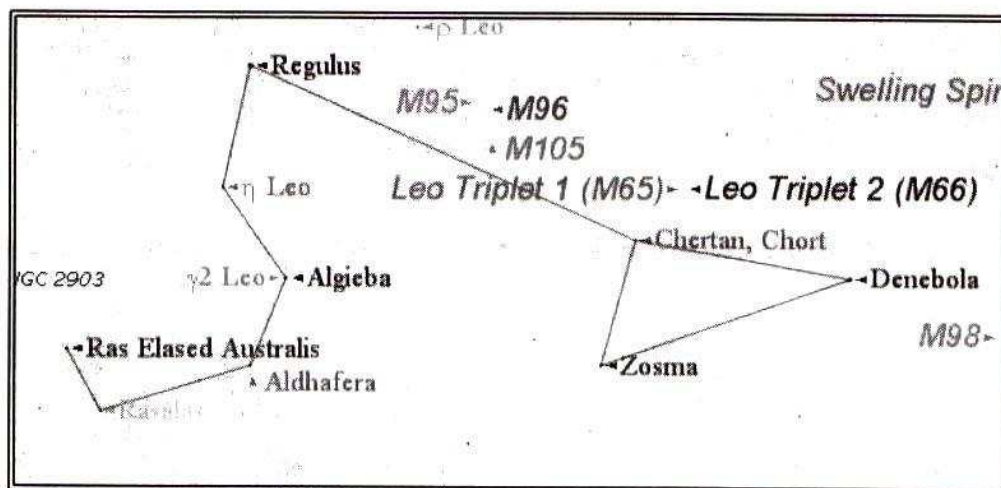
March

- 7th Moon first quarter
- 15th Full Moon
- 17th Spica 0.3°S of Moon (9pm)
- 23rd Moon last quarter
- 28th Mercury 2°N of Moon (3am)
- 29th New Moon

April

- 5th Moon first quarter
- 14th Full Moon
- 16th Jupiter 5° N of Moon
- 21st Moon last quarter
- 23rd Pi-puppids meteor shower maximum
- 24th Venus 0.5° N of Moon
- 26th Mercury 4°S of Moon
- 28th New Moon

Leo – The Lion



Leo is well known as one of the constellations of the zodiac. He also is one of the few constellations that has an easily recognisable shape and does look somewhat like a crouching lion. The mane of the lion is marked by a distinctive curve of stars known as the sickle, which is often described as an back-to-front question mark. In the southern hemisphere Leo can be found lying on his back in the northern sky during the autumn evenings. The ancient arabs saw a much larger lion in this area,

which reached from the present day Gemini to Libra. He shrunk to his current form when the Zodiac was formed. In Greek mythology Leo represented the Nemean Lion, which came down to Earth from the Moon and rampaged across the country-side until Hercules killed and skinned it as one of his Twelve Tasks. Zeus then returned the lion to the stars.

Alpha Leonis (Regulus) is a multiple system. Component B is very wide: (8.1m, PA 307 degrees, 177"), and this star has its own companion ("C"), a very faint 13m dwarf, with a period of about 2000 years, now approximately 2.6" and a PA of about 86 degrees.

Leo has five Messier objects: *M65*, *M66*, *M95*, *M96*, and *M105*.

M65 (NGC 3623) and *M66* (NGC 3627) make a splendid pair of spiral galaxies in the same field, between theta Leonis and iota Leonis. This is a fine binocular duo, or use a small telescope. *M66* is the one to the east. Both galaxies are elongated north-south; *M65* has a tighter spiral and is perhaps the more noticeable.

M95 (NGC 3351) and *M96* (NGC 3368) form another nice pair, although farther apart. The two are found in a group of galaxies midway between alpha Leonis and theta Leonis, and just slightly to the south. Of the two, *M95* is to the west. This is a curious round object, with a very faint circular bar. *M96* is a tight spiral galaxy, much brighter than its neighbour. Both this pair and *M65/M66* are considered to be about 30 million light years away.

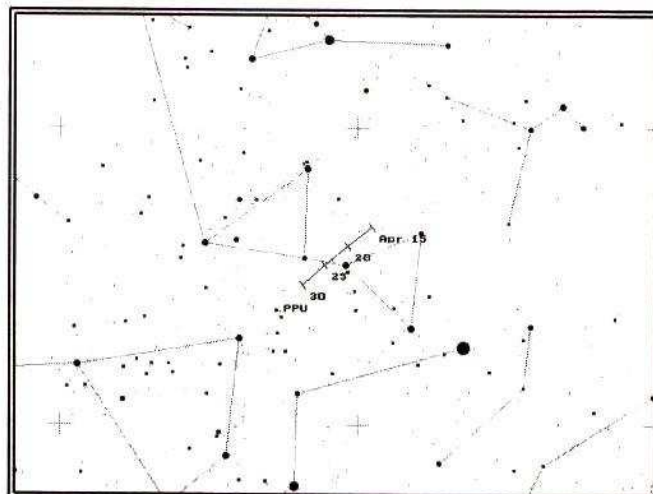
M105 (NGC 3379) is a much dimmer galaxy to the north-north-east of *M96*. Along with NGC 3384 and NGC 3389, which lie just to the east, this object forms a small triangle of galaxies.

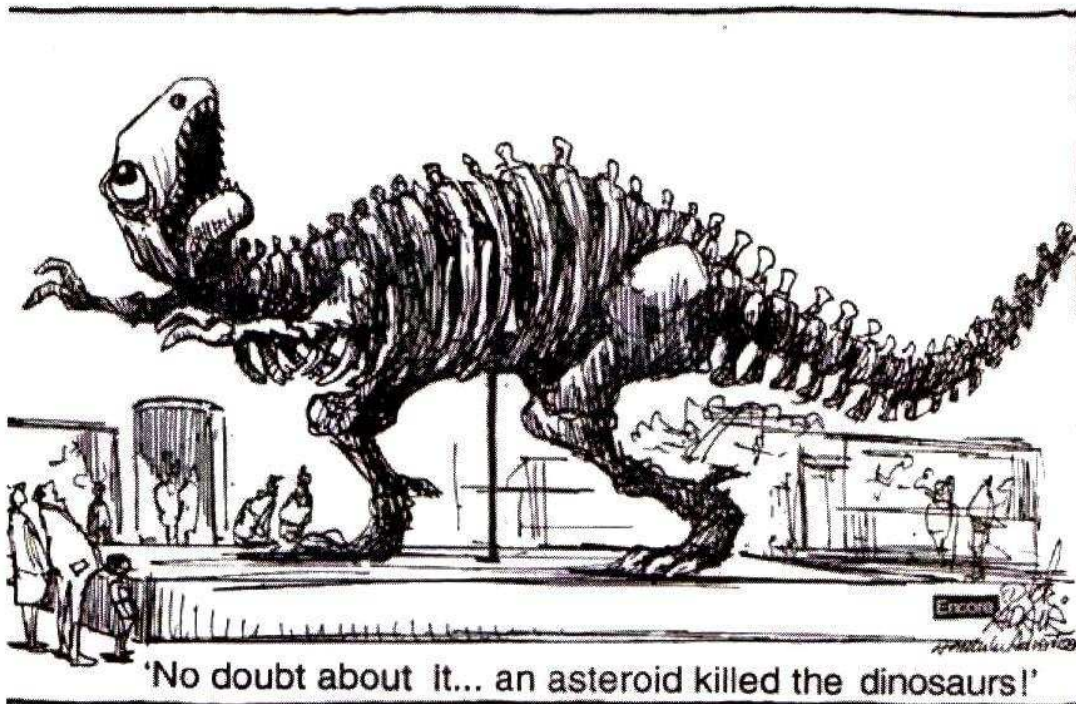
Indeed, there are many more galaxies in Leo to explore. Most of them lie between alpha and beta Leonis, with a smaller group scattered around gamma Leonis. Most of them are 10-12m, so the larger the telescope the more favourable the viewing.

Pi Puppids

This stream, the debris of comet 26P Grigg-Skjellerup, had notable outbursts in 1972, 1977 and 1982, which seemed to indicate some periodicity similar to the comet's orbital period of 5.3 years. Outside these years, the shower is virtually undetected. The comet was last at perihelion in November 2002 and next in 2008, so little is expected in 2006 from the shower. However, conditions favour observation, with no moon to speak of, and observations are encouraged in case something unexpected does happen. The radiant is perfectly placed in the evening and observation can continue until about midnight. Pi Puppids are very slow and often bright.

The Pi Puppids get their name because their radiant appears to lie in the constellation Puppis, at around Right ascension 112 degrees and Declination -45 degrees. This makes them only visible to southern observers.





WEB SITES

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

International Astronomical Union : <http://www.iau.org/>
 NASA : <http://www.nasa.gov/home/index.html>
 NACAA : www.nacaa.org.au
 Universe Today : www.universetoday.com/
 International Meteor Organisation : www.imo.net
 NACAA 22 : <http://www.nacaa.org.au/main.htm>

Join the E-scorpius newsgroup

The MPAS has an online newsgroup called E-Scorpius. Here you will be kept up to date with the latest MPAS news and event information as well as being able to join in discussions and ask questions with other members. To join go to <http://groups.yahoo.com/> and sign up to Yahoo groups. You require to sign up to Yahoo groups to join E-Scorpius. Once you have signed up at Yahoo Groups, email skywatch@iprimus.com.au saying that you want to join E-Scorpius and you will be added to the E-Scorpius list. Come on, join up. The more people in the group the better.

ASTRO QUIZ

1. What are comets made of? a) Ice & dust b) rock c) hydrogen d) metal
2. What are meteors called that explode with a thunder sound? a) meteoroid b) asteroid c) shooting star d) bolide
3. What happens when a comet goes toward the sun? a) explodes b) develops a tail c) melts d) catches fire
4. What is the smallest planet in our solar system? a) Mercury b) Venus c) Pluto d) Mars
5. What term do astronomers use to measure the brightness of a star? a) light year b) magnitude c) watt d) parsec
6. What type of galaxy is the Milky Way? a) barred spiral b) elliptical c) spiral d) irregular
7. How many basic types of galaxies are there? a) 2 b) 3 c) 4 d) 5
8. What do scientists think is in the middle of the Milky Way? a) the Sun b) Black Hole c) chocolate bar d) a planet
9. Which planet is called the Sister Planet? a) Venus b) Mars d) Mercury e) 'Nun' of these
10. Which planet has the most Moons? a) Jupiter b) Saturn c) Uranus d) Neptune
11. Which planet has the moons Phobos and Deimos? a) Saturn b) Neptune c) Jupiter d) Mars
12. The Orion nebula is Messier object number? a) M1 b) M42 c) M36 d) M22
13. Which constellation has 9 messier objects, including the M104? a) Leo b) Pisces c) Virgo d) Gemini
14. Which is not a major meteor shower? a) Leonids b) Cruxids c) Perseids d) Taurids
15. Which of these comets revisits every 3.3 years? a) Encke b) Halley c) Hale-Bopp d) Swift-Tuttle

Contributions to Scorpius

If you would like to submit an article or written contribution to Scorpius then please send your submission to MPAS, PO BOX 596, Frankston, Vic, 3198 or email to quasar3671@aapt.net.au (Attn : Marty Rudd). 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 are welcome.

Office bearers of the Mornington Peninsula Astronomical Society

President :	Peter Lowe – 0419 355 819	Secretary :	Don Leggett
Vice President :	Ian Sullivan	Treasurer :	Marty Rudd – 5977 8863
Editor :	Marty Rudd	Public Officer :	Rhonda Sawosz
Committee :	Peter Skilton		
	Terry Ryan		
Librarian :	Andrew Thornton	Web Master :	Richard Pollard
Phone Contact :	Peter Skilton		

Meetings

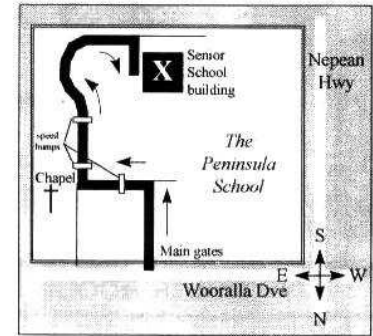
Meeting Venue: *Peninsula School*, Wooralla Drive, Mt. Eliza (Melways map 105/F5) in the Senior School at 8pm on the 3rd Wednesday of each month except December.

Phone: 0419 253 252

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

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

E-mail: skywatch@iprimus.com.au



Subscriptions

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

(Please send payments to the MPAS, PO Box 596, Frankston, Vic, 3199)

Loan Equipment

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

Contact Kevin Rossiter or a committee member to arrange the loan of equipment.

The Society also has books and videos for loan from 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

- 15th March, Wednesday
 - General Meeting at The Peninsula School
 - Session 1 : General Meeting and speaker
 - Session 2 : Video - "John Harrison and His Timekeepers (Greenwich)"
 - Session 3 : Open forum and *Sky for the Month*
- 18th March, Saturday
 - Ken Bryant Scope Day at the Briars
- 25th March, Saturday
 - Astronomy class with Ian Sullivan at the Mornington Library
- 25th March, Saturday
 - Solar Day from 1:00pm to 4:00pm at the Briars
- 25th March, Saturday
 - Members viewing night at the Briars
- 14th-17th April
 - NACAA based at the International Hotel in Frankston
- 19th April, Wednesday
 - General Meeting at The Peninsula School
 - Session 1 : General Meeting and speaker
 - Session 2 : Video
 - Session 3 : Open forum and *Sky for the Month*

Quiz answers

- 1 a) Ice & dust 2 d) bolide 3 b) develops a tail 4 c) Pluto 5 b) Magnitude 6 c) spiral 7 b) 3 8 b) Black Hole 9 a) Venus 10 b) Saturn 11 d) Mars 12 b) M42 13 c) Virgo 14 b) Cruxids 15 a) Encke

Working Bee 29th January 2006.
 Main job was to paint the floor in the big shed with clear sealer and dig a trench for 240 volt power point mounted on a treated pine post.
 Also added soil around the edges of the new concrete slabs and paths.

Photos by John Cleverdon





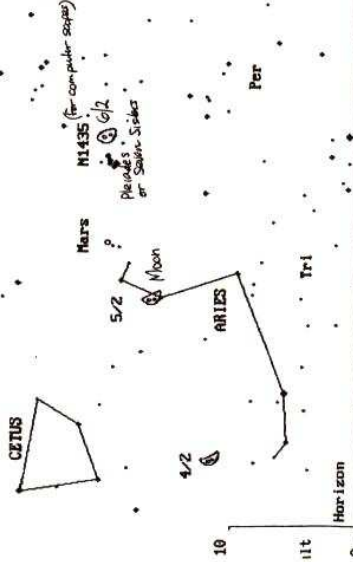
Telescope learning day
18th February 2006

Photos by John Cleverdon

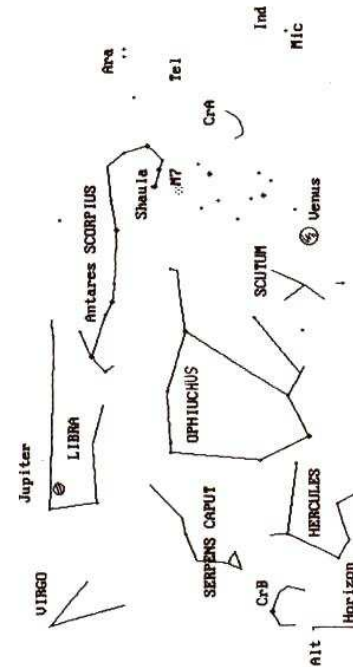


SKY FOR THE MONTH 18TH JANUARY 2006 TO 14TH FEBRUARY 2006 MORNINGTON PENINSULA

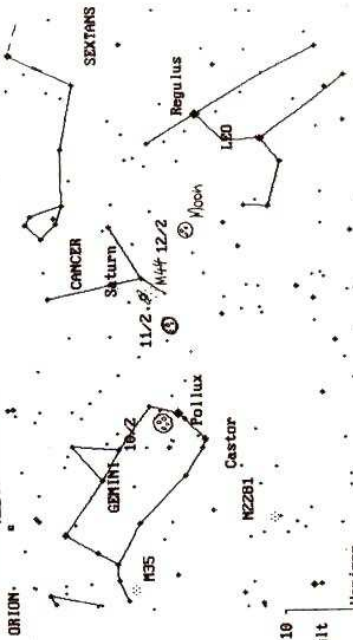
10:30 pm MARS Dark Sky 2006 Summer Time 6th February
 Faintest object is mag 5.5 U1.00 (c) Bob Heale 13/1/03



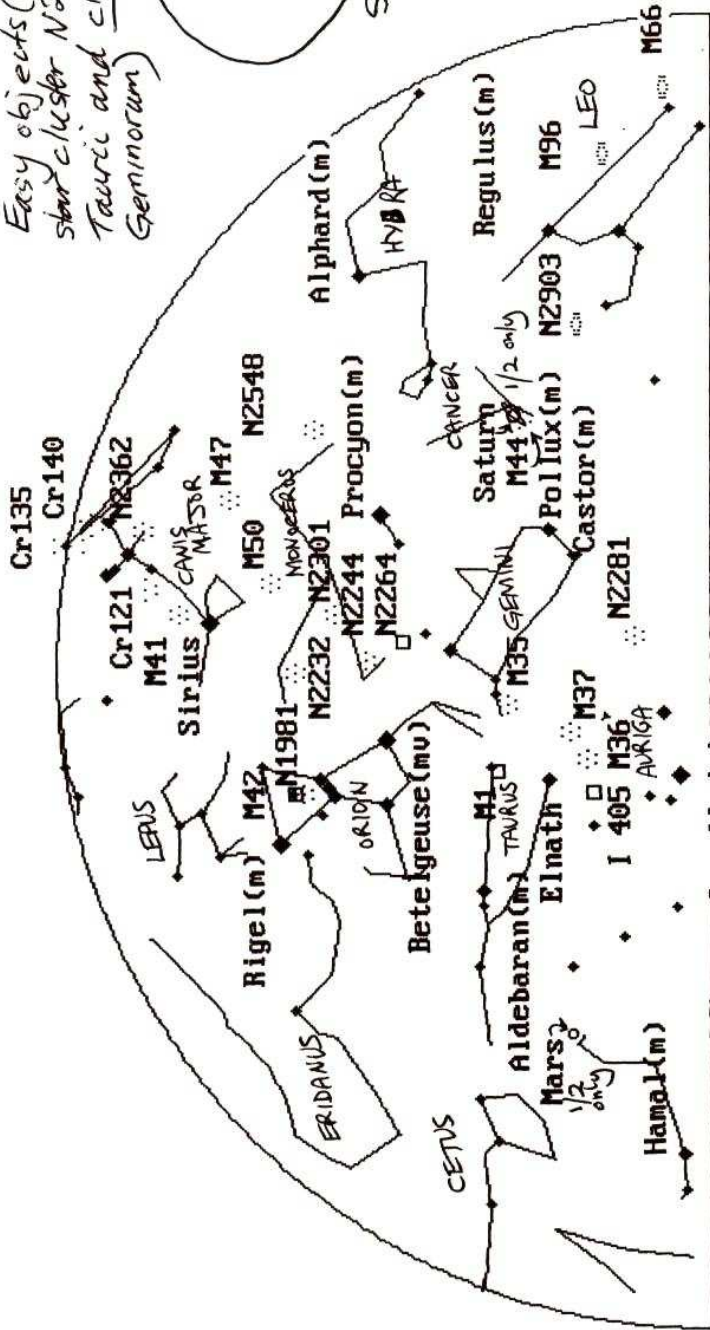
5:07 am Z/3 Dark Sky 11th February 2006 Summer Time
 Faintest object is mag 3.5 U1.00 (c) Bob Heale 13/1/03



10:30 pm Dark Sky 11th February 2006 Summer Time
 Faintest object is mag 5.5 U1.00 (c) Bob Heale 13/1/03



Easy objects (selected) are bright triangular open star cluster N2232, easy pleasant true double Chi Tauri and close easily found triple Castor (alpha Gemmorum)



Bob Henk
 MPAS
 16/1/2006

light blue
 orange
 red dwarf

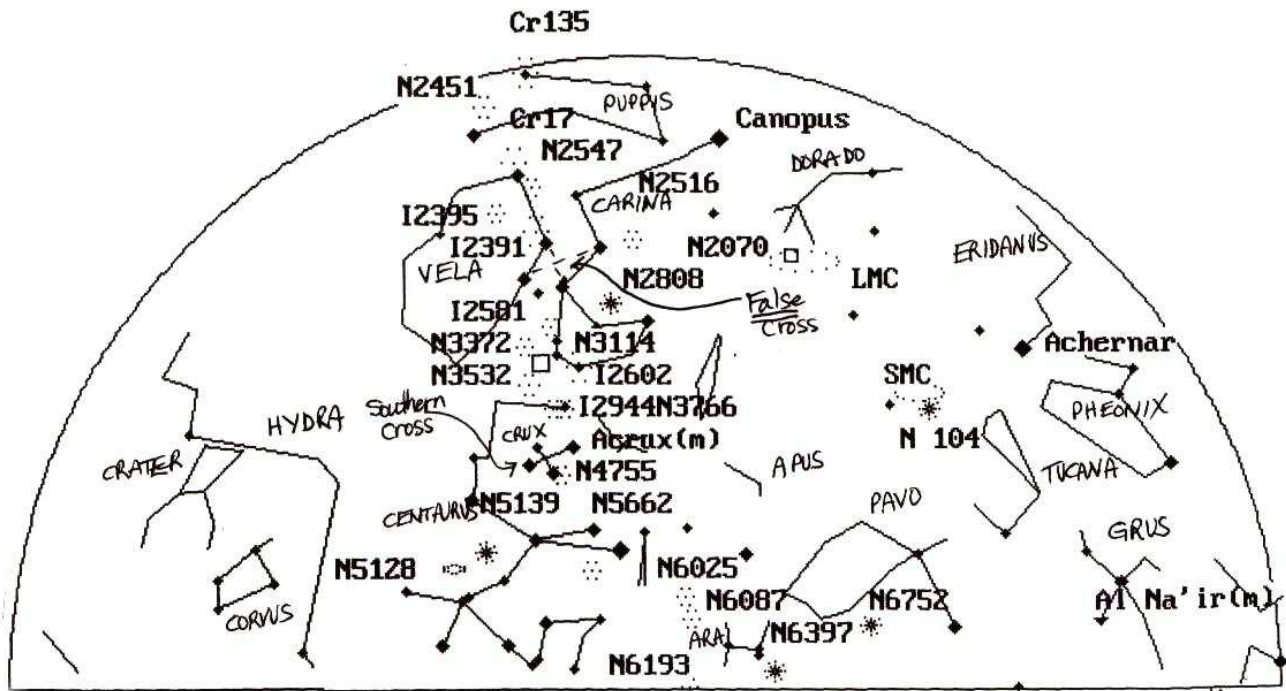
South Epoch 2000

light blue
 orange
 red

South Epoch 2070

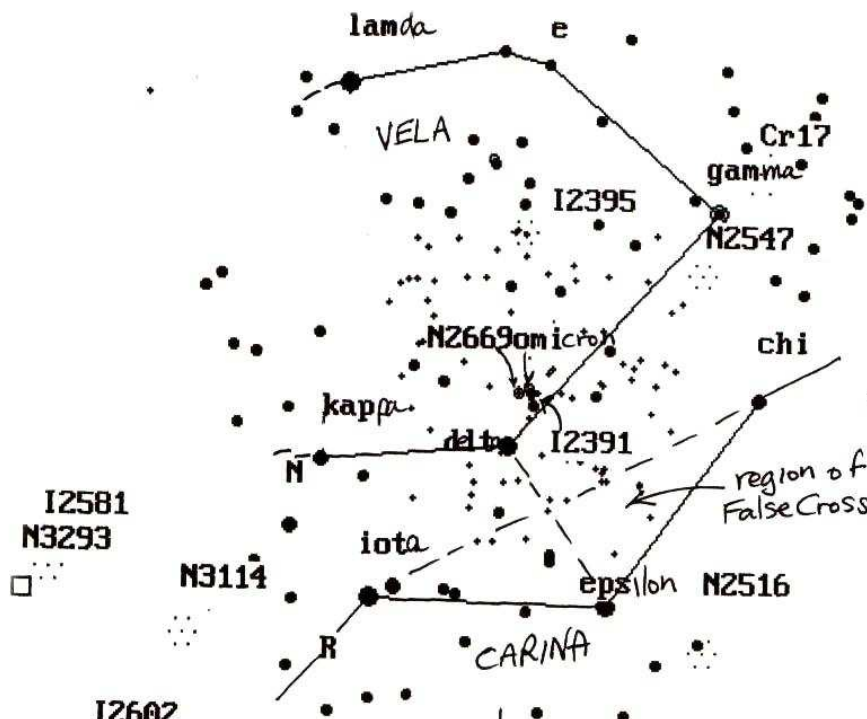
Some of our dear asteroids are currently at their brightest eg Vesta in GEMINI

Capella (m)
 12am and 15th 11 pm 1st February North Dark Sky 2006 Summer Time, also 18th January 10 pm Summer Time



January 2006 12am 11 00 pm 1st February SSE Dark Sky 2006 Summer Time, also 18th and 15th February 10 pm Summer Times

Selected very worthwhile region is that of False Cross (see below), the bright small planetary N5315 CIRCINUS (NOT! for the faint hearted - ooh dear!) and easy spiral galaxy 'spanish dancer' N1566 (yes - been there before - uhh!)

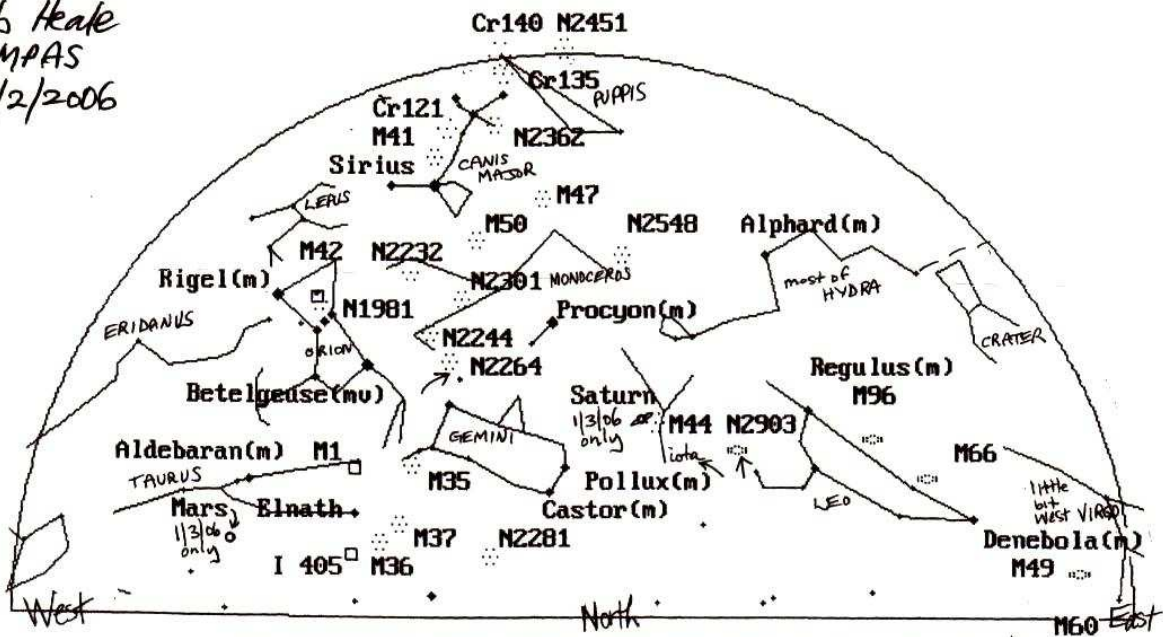


... are all open star clusters
 central one I2391 (brightest star) is large, bright, essentially blue stars, no stand out shape, with sparse 'ish' 6 star trapezium cluster N2669 on western edge
 I2395 bright, a tight swarm of 'stardust' nebs and fainter stars, set in region south of an abundant field of stars
 N2547, south of gamma Velerum, 80 stars, 12 brighter than mag 9, in a very rich Milky Way field, appearing like an on its side curved cross ??
 And home in on gamma a fine quadruple mag 2, white at 8, 9 both SE of gamma

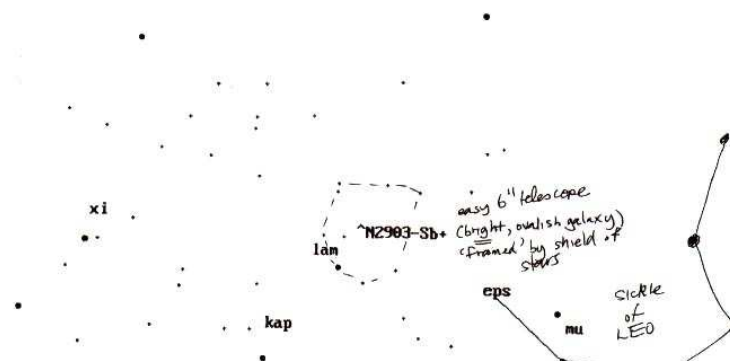
Bob Heale
 MPAS 16/11/2006

South East January 13 10pm-ish

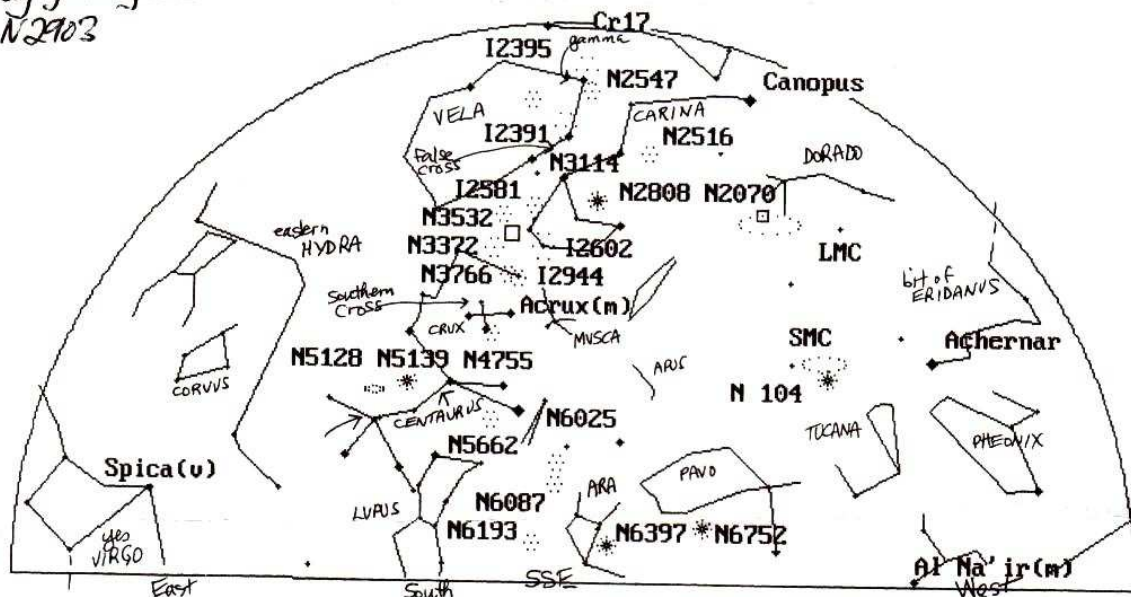
Bob Heale
MPAS
15/2/2006



11 30 pm 15th February 10 30 pm 1st March North Dark Sky 2006 Summer Times, also and 15th March 9 30 pm



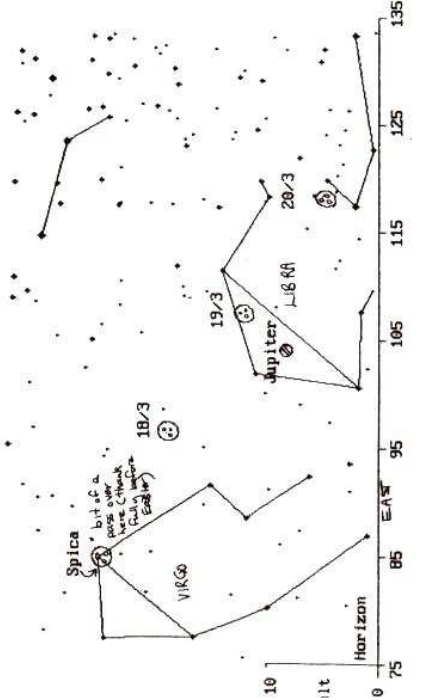
'Finder' for easy galaxy N2903 Refer northern hemisphere chart over



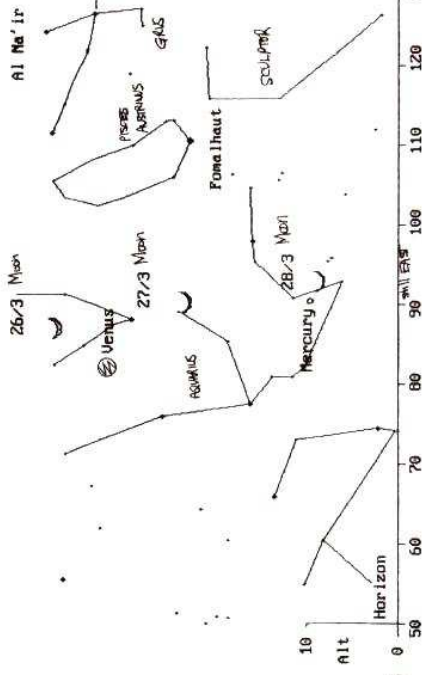
15th February and 10 30 pm 1st March SSE Dark Sky 2006 Summer Times also 11 30 pm and 15 March 9 30 pm

SKY FOR THE MONTH 15TH MARCH TO 18TH APRIL 2006 MORNINGTON PENINSULA

JUPITER 10 28pm Dark Sky 19 March 2006 Summer Time
Faintest object is mag 5.5 U1.00 (c) Bob Heale 13/1/03

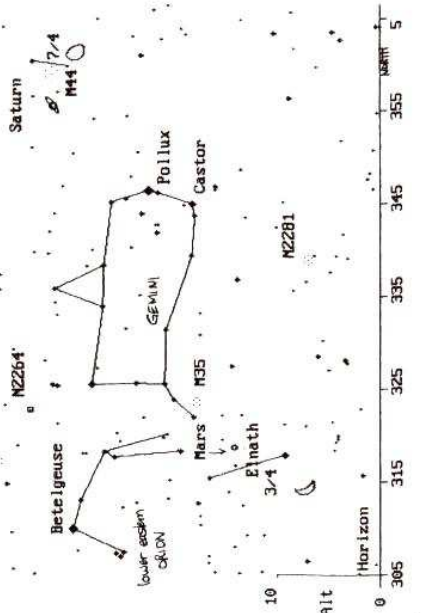


VENUS/MERCURY 6 28 am Dark Sky 27th March 2006 Summer Time
Faintest object is mag 4 U1.00 (c) Bob Heale 13/1/03



MARS/SATURN

9 07 pm Dark Sky 5th April 2006 Summer Time
Faintest object is mag 5.5 U1.00 (c) Bob Heale 13/1/03



Easy objects in HYDRA

- wide colourful double 27Hydrae
- bright unaided eye open cluster M48
- more nearer NGC 6893 with bright tight triangular asterism at centre
- circlet N Hydrae
- easy colourful 54Hydrae
- easy very bright and large planetary N3342 ghost of Spica

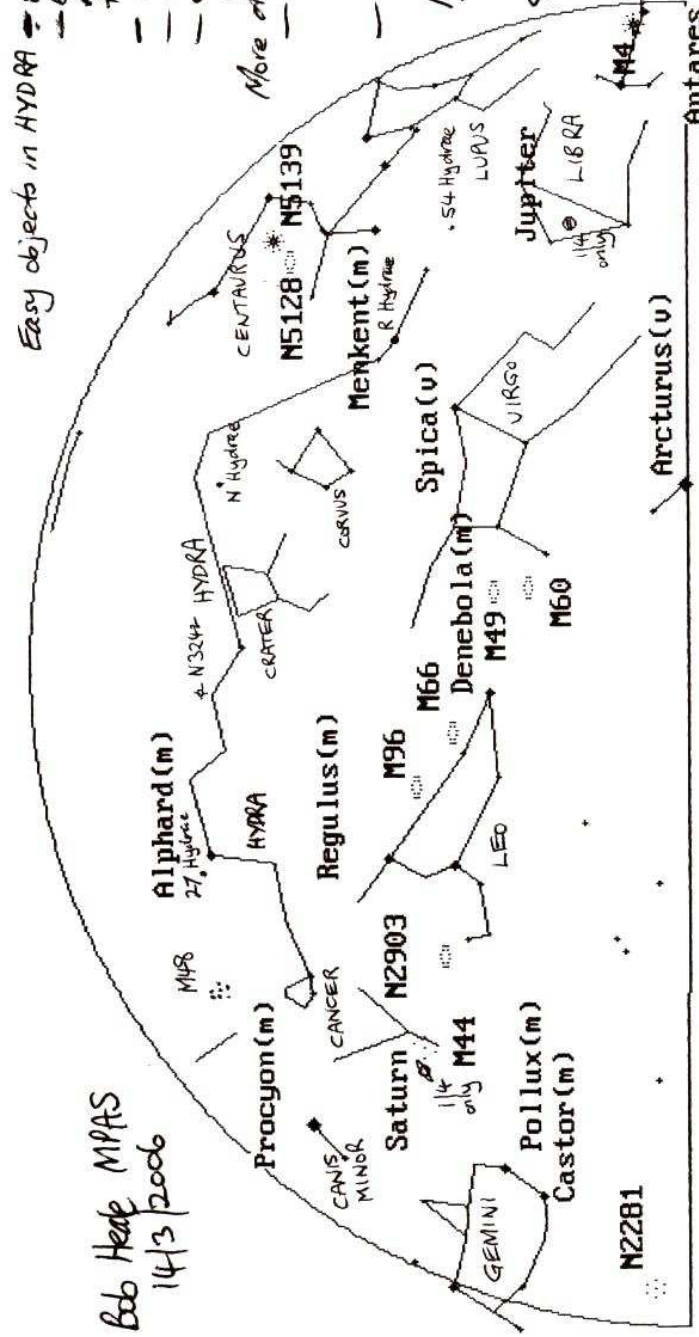
More difficult are

- galaxies N2708 with group nearby, N2784
- easy in 8" telescope, Hydra/ or Abel
- 100 galaxy group centred on N3312
- planetary N266 bright, responding to neb filter

MARS passes open cluster N1746 21-23/3 north edge, moving to right steadily passes north edge N2688 M35 17-19/4 Saturn stationary 5/4 moving back to but not close to M4

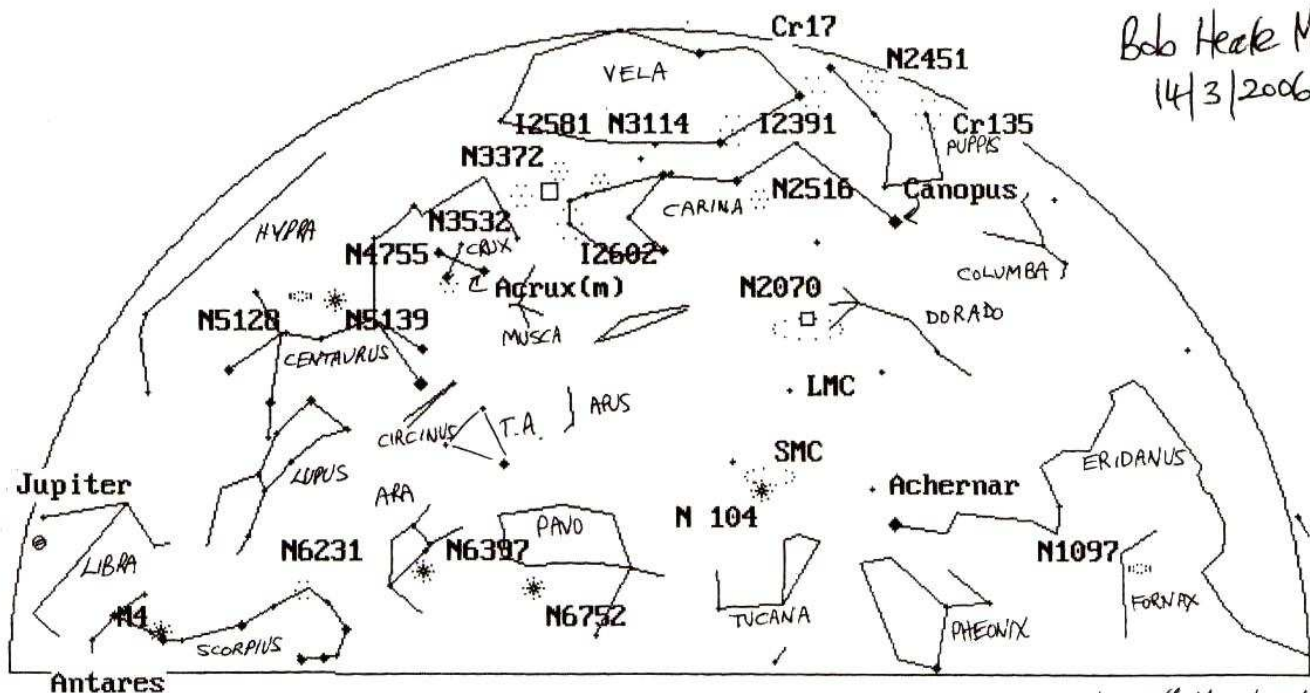
Jupiter 'stepping out' feed to left VENUS steady through CANICRAN/ AQUARIUS Mercury moves beyond Circlet ABES 27/3 then flips back then PLACES

Bob Heale MPAS 14/3/2006



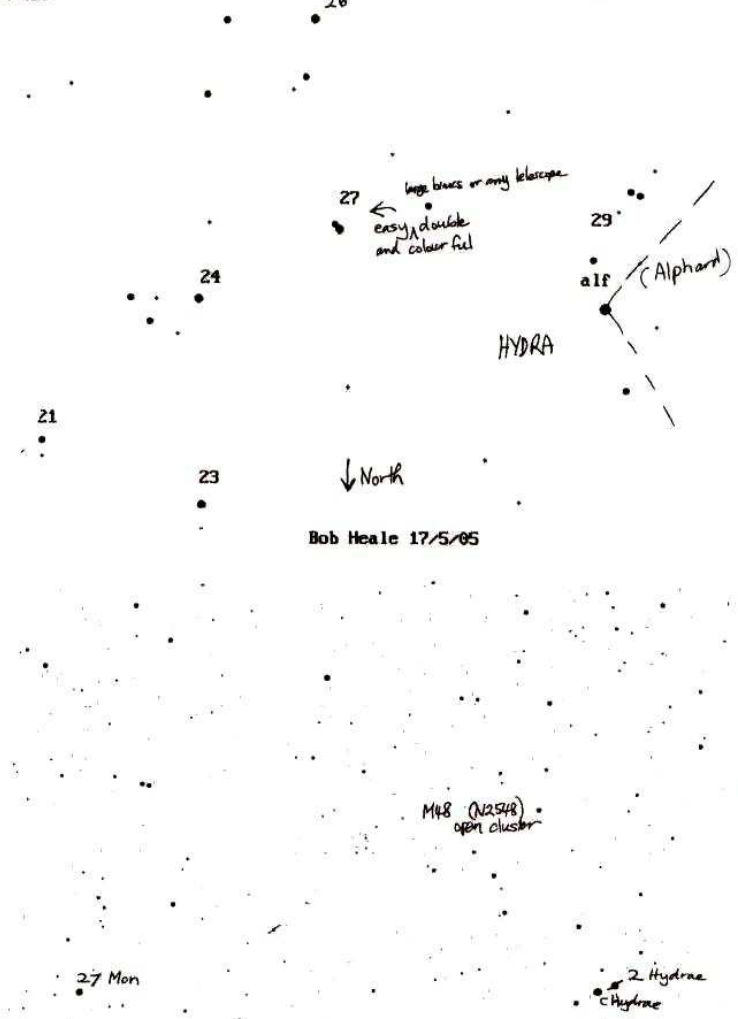
10 pm 1st April NE Dark Sky 2006 Summer Time, also 15th March at 11pm, 15th April at 9pm Summer Times

Bob Heale MPAS
14/3/2006



10 pm 1st April South Dark Sky 2006 Summer Time, also 15th March at 11pm, 15th April at 9pm Summer Time.

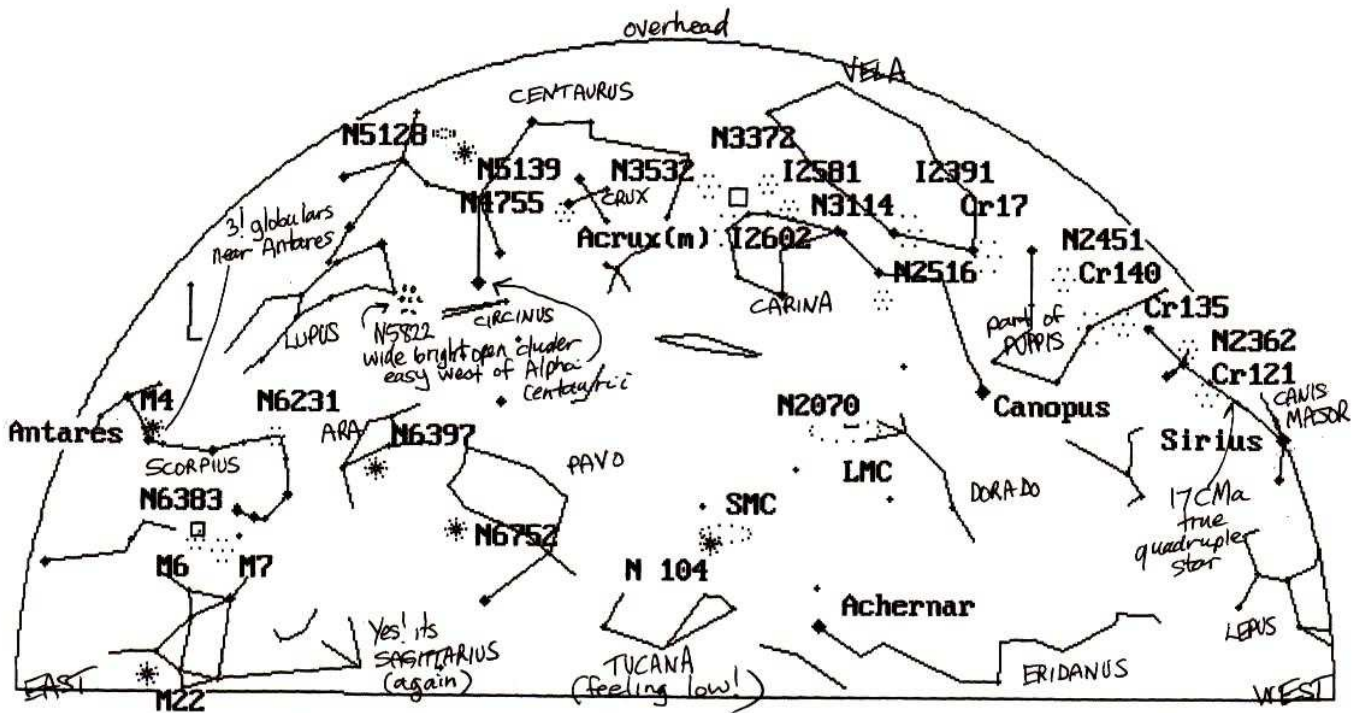
or Scope (B) or Change Sky (T) or Graphic Screen Mode Change (M) or Exit (E)



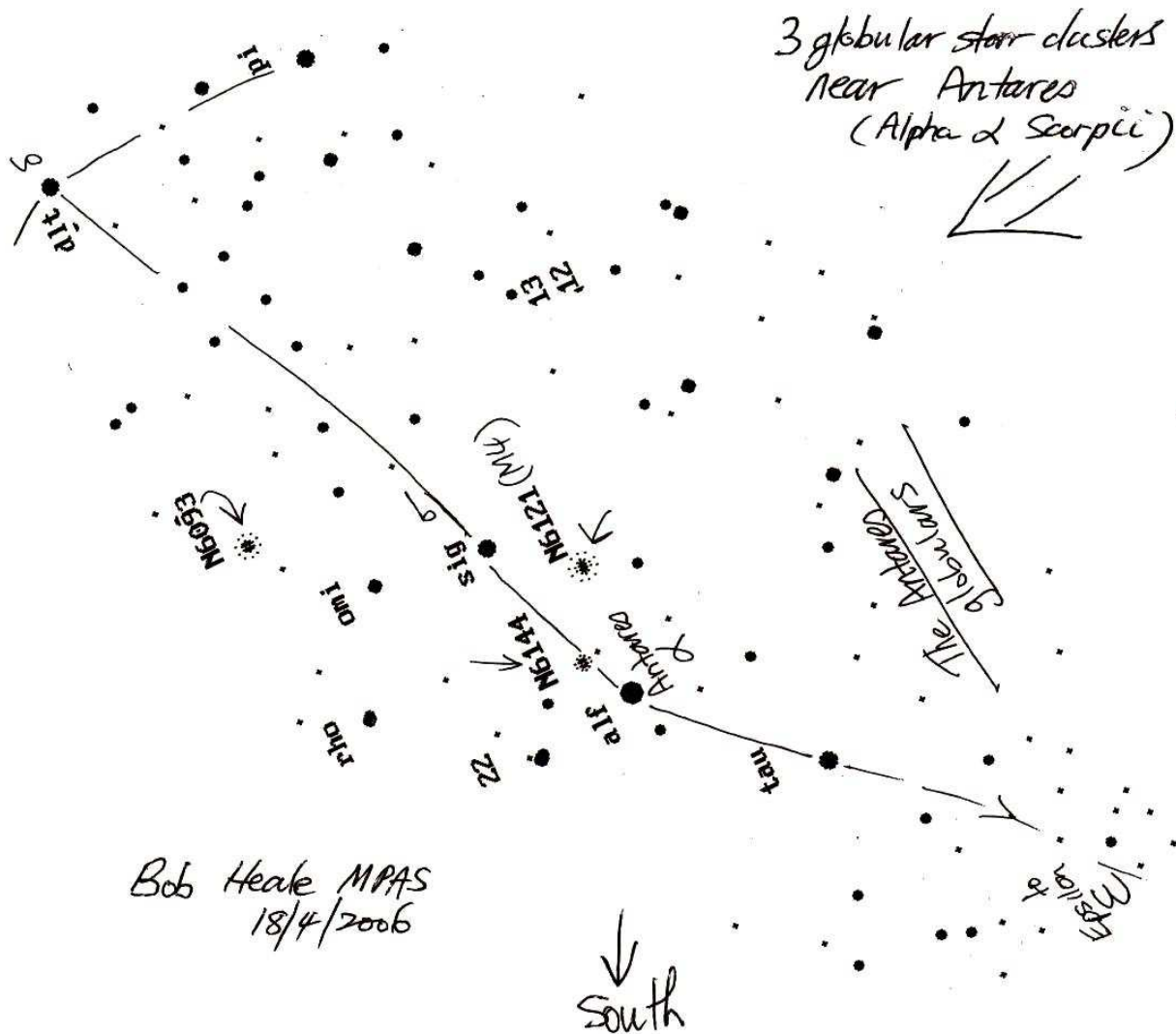
Bob Heale 17/5/05

This cluster N2548 or M48 is large ~1° field, bright and colourful centre

Bob Heale MPAS
14/3/2006

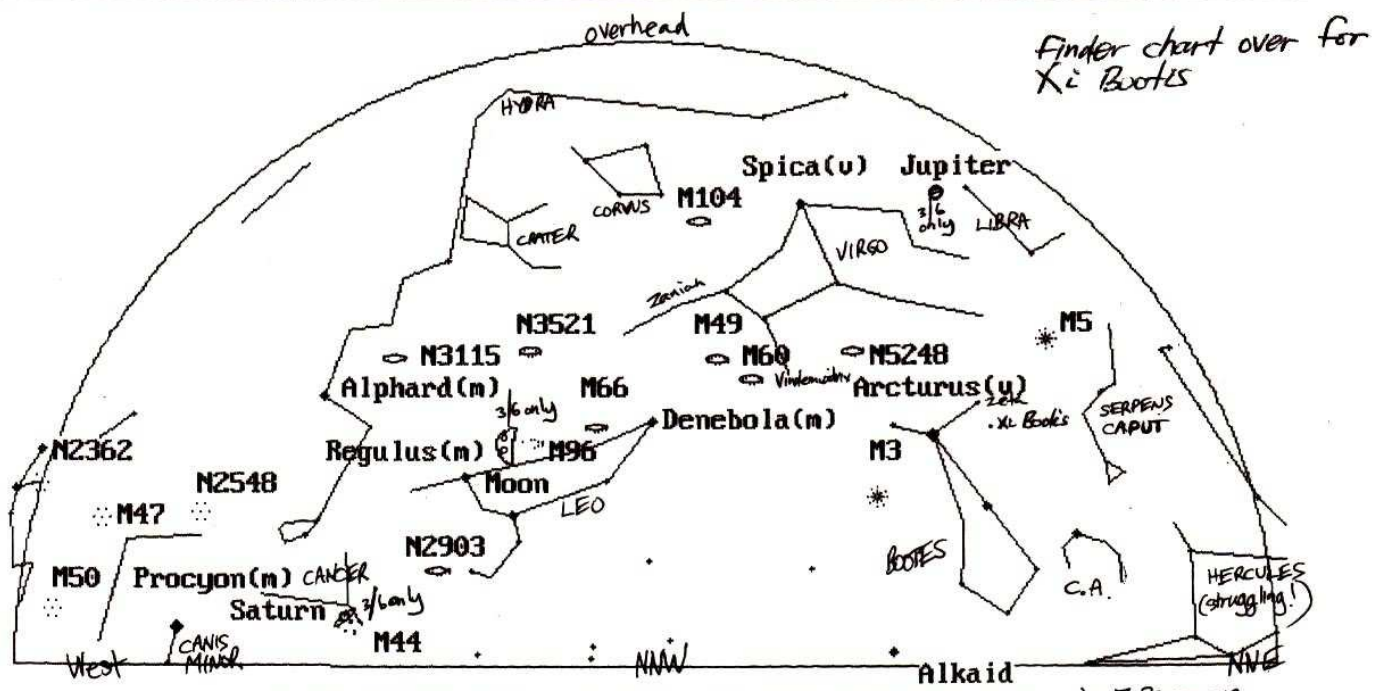


19th April and 9 pm 3rd May South Dark Sky 2006 Standard Time, also 10pm 8pm 17th May Standard Times



Bob Heale MPAS
18/4/2006

SKY FOR THE MONTH 17TH MAY TO 20TH JUNE, 2006 MORNINGTON PENINSULA



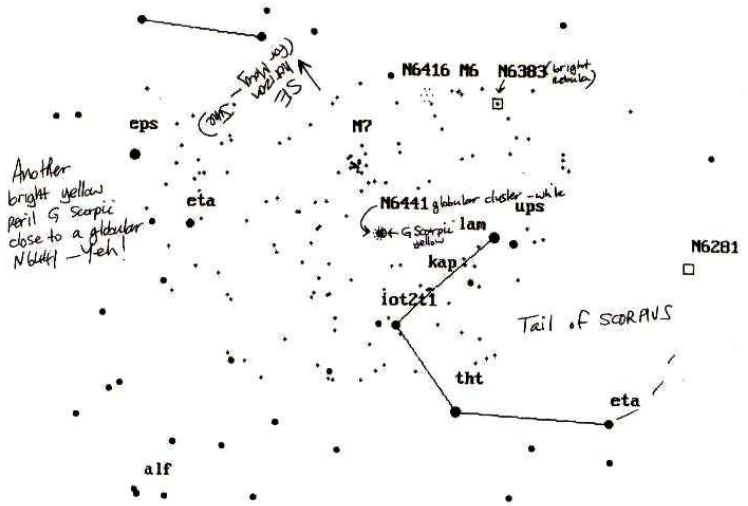
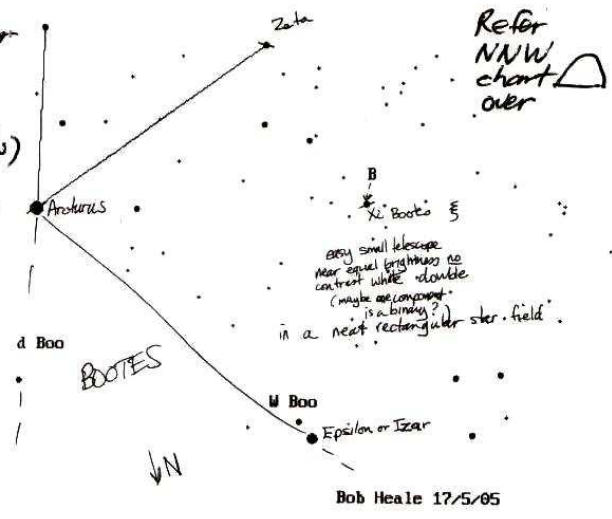
17th June and 9 30pm 19th May 8 30 pm, 3rd June NNW Dark Sky 2006 Standard Time, also 7 30pm on Standard Times

Worthwhile objects ABOVE
 - Struve or Σ 1627 a Zenith of VIRGO easy small telescope uncontrasting double white white - only easy in VIRGO

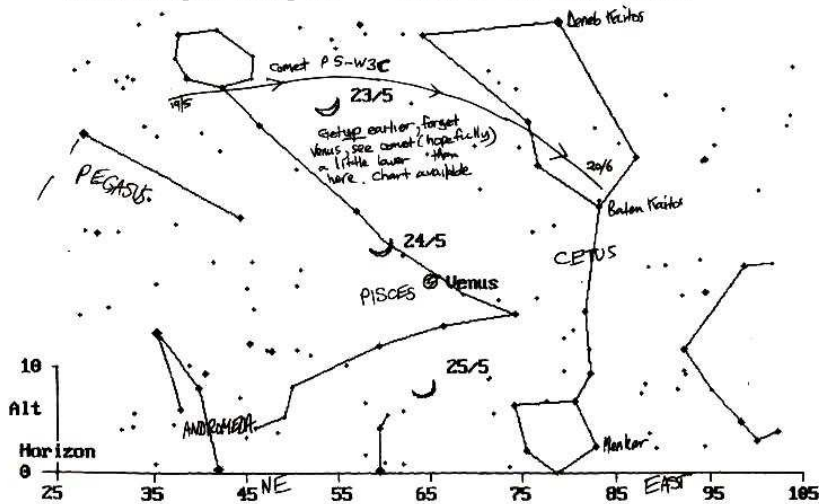
- binary, very colour tint/contrasting Xi Bootes and quadruple with faint companions
 - highest medium telescope galaxy N5248

Worthwhile objects
 - easily found globular N6441 next to bright yellow mag 3 G Scorpi (variable?) small telescope (SEE BELOW)
 - Cepheid variable R and S Triangulum Australe

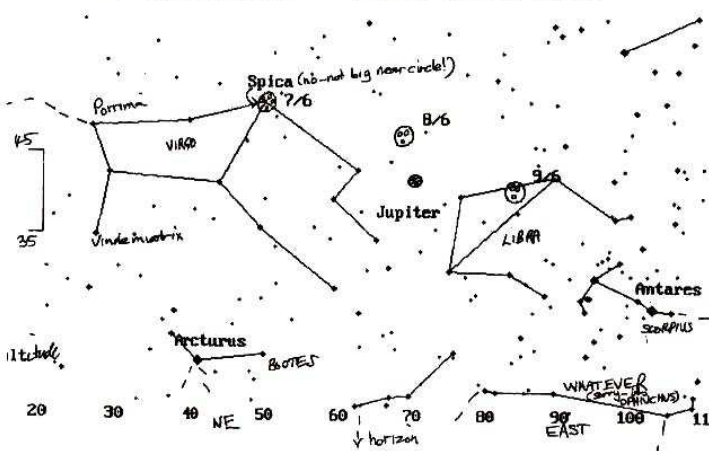
Refer NNW chart over



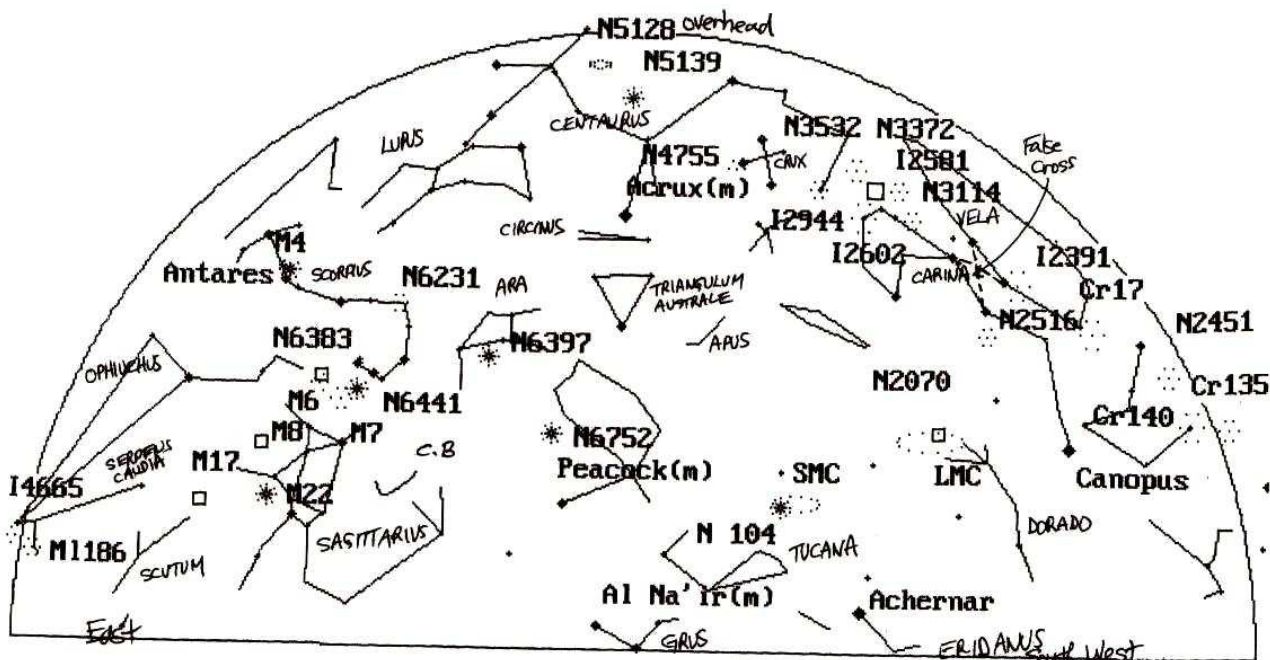
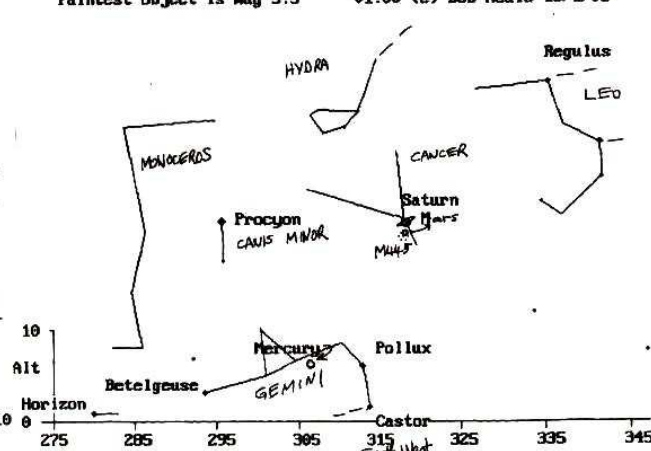
VENUS 5 40 am Dark Sky 24th May 2006 Standard Time
 Faintest object is mag 5.5 U1.00 (c) Bob Heale 13/1/03



JUPITER 6 40pm Dark Sky 8th June 2006 Standard Time
 Faintest object is mag 5.5 U1.00 (c) Bob Heale 13/1/03



6 09 pm Dark Sky 16th June 2006 Standard Time
 Faintest object is mag 3.5 U1.00 (c) Bob Heale 13/1/03



7 30pm 17th June 8 30 pm 3rd June SSE Dark Sky 2006 Standard Time also
 and 9 30pm 19th May 2006