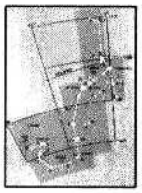


SCORPIUS

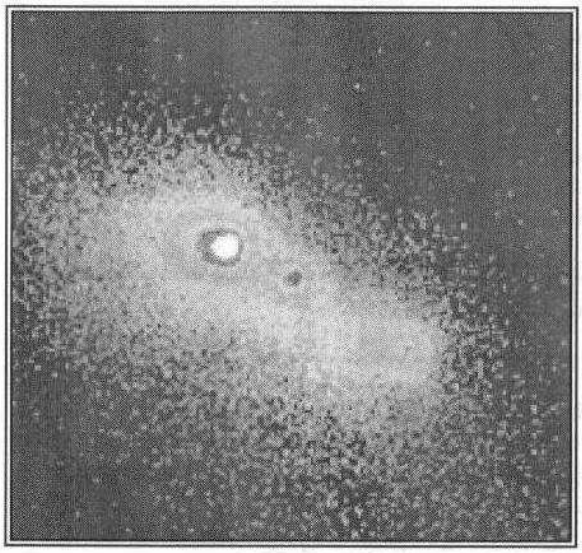
The Journal of the
Mornington Peninsula Astronomical Society Inc.

Reg No: A268 *ABN: 34569548751* *ISSN: 1445-7032*

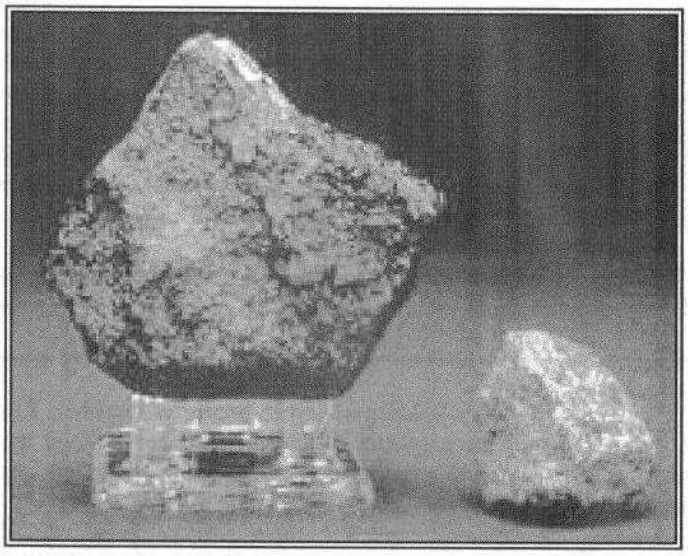
Volume XV, No. 2 (June 2006)

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.

Watching comet 73P break up



Nakhla meteorite may have evidence of past life on Mars



Plus :

Shuttle Discovery – ready to launch
Crater chains on Earth
All about twilight

June field nights and events

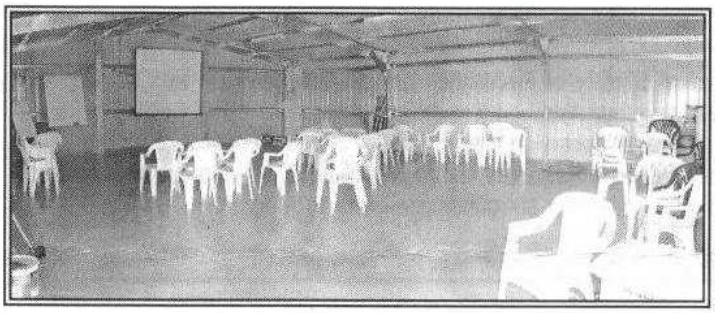
1st June – Rotary viewing night at Briars
2nd June – Public viewing night at Briars
10th June – Astrophotography night at Briars
21st June – General Meeting

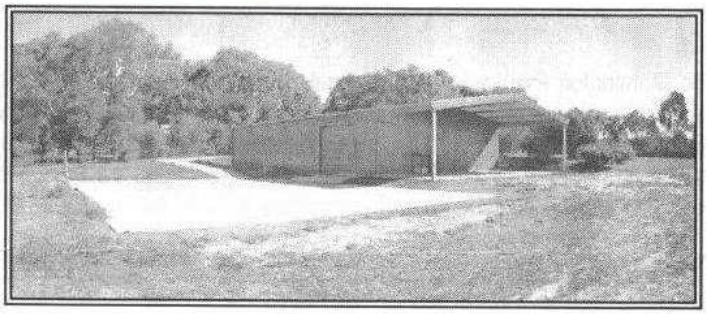
Society News

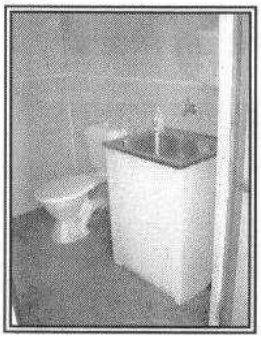
The MPAS All Weather Facility

The main part of the MPAS All Weather Facility has now been completed. Along with the erection of the main structure, the pouring of the concrete, and the completion of the toilet facilities, the electrical work has also been completed.

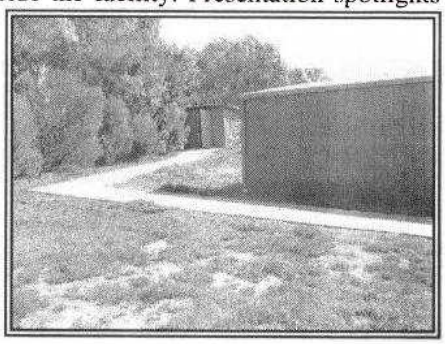
Not more than six months ago, all that was up at the Briars site was a lower viewing slab with the wooden shed, the upper viewing slab and the upper Colorbond storage shed. With the main work completed we now have the AWF, complete with concrete floor inside. The upper viewing slab has been doubled in size and now has a concrete path that leads up to the upper Colorbond shed which has been converted into a restroom, complete with toilet and a sink. 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







Extensive electrical work has also now been completed. Six bays of double flour lights now dorm the ceiling of the AWF to allow for full illumination inside the facility. Presentation spotlights have been fitted to the South end of the AWF to provide for 'mood' lighting when special events occur at the site. A range of night vision friendly red lights have been installed both inside and out under the garaport to allow for seeing during viewing and observing nights. Lastly additional outdoor weatherproof power points have been installed under the garaport as well as an additional weather proof power point on a post around the perimeter of the extended main viewing slab. The lower wooden shed has also had power reconnected to it.



Future ideas for the Briars now include a bbq area for members to enjoy during society events, a bit of landscaping around the site and some further improvements to the AWF.

The MPAS is holding a viewing night for Dromana Rotary at the Briars on Thursday 1st June. The starting time is 8pm. Around 40 Rotarians expected so around 5 scopes will be required. If weather looks like it may be non-conducive to good viewing, those providing the scopes should please call Don Leggett on (03) 5985 4927 or 0428-363 323 as we might cancel it for a clear night at a later date.

The usual public viewing night will be held on Friday 2nd June at the Briars, and will start a 8:00 pm.

A Viewing night is planned for Saturday 10th June from 6:00 pm (earlier if you want to join in the BBQ). The purpose of this event is a combined members / public night for demonstration & discussion on Astrophotography. Members of the public are invited to bring their CCD cameras to try Astrophotography with telescopes.

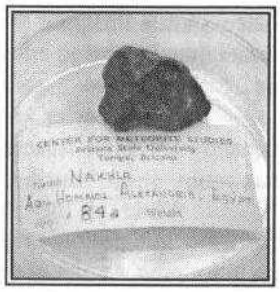
Volunteer assistance makes up an integral part in the running of the Mornington Peninsula Astronomical Society and members are encouraged to take part in assisting with events and working bees whenever they are able to. Working bees and volunteer assisted events are publicised on the 'What's On' flyer 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.

Astronomy 2006

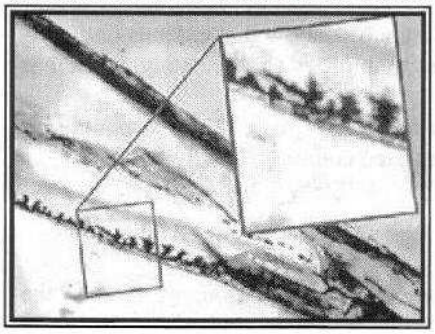
It's almost half way through the year and there are a few copies of the excellent annual Australian publication, **Astronomy 2006**, available for purchase. The book shows what is in the night sky throughout 2006, and is aimed at all levels of amateur astronomer, from newcomer to expert.
Pricing is $20 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 or by cheque to P.O. Box 596, Frankston 3199
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

95th Anniversary (1911), Nakhla Meteorite Fall in Egypt



An achondrite which exploded over the Egyptian town of El-Nakhla, on Jun. 28, 1911, breaking into about 40 fragments, one of which allegedly (though this has never been proved) killed a dog. Nonetheless, Nakhla, is not a new find, nor is it an obscure one as Martian meteorites go. In fact, it's perhaps the most famous of the 13 known Martian meteorites that have so far been found on Earth. As meteorite expert Dr. Allan Treiman of the Lunar and Planetary Institute in Houston remarks, "it fell on June 28th, 1911 at 9 in the morning in northern Egypt in the general area of Alexandria. About 10 kilograms fell in total, as a series of 40 small stones, ranging in weight from 1.8 kilograms down to only 20 grams." The Nakhla meteorite was later identified as belonging to an exclusive group of objects, known as SNC meteorites, a subgroup of which is the nakhlites, which are believed to have come from the surface of Mars.



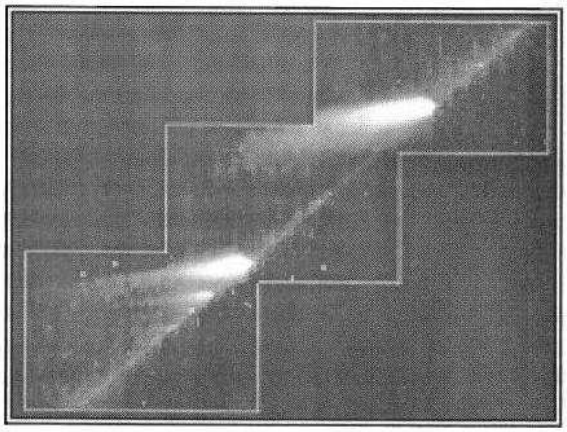
The igneous rock of which the Nakhla is largely composed has been dated at 1.3 billion years. However, based on the age of clay found inside the specimens examined, it is thought that this rock was exposed to water about 600 million years ago. One of the fragments, a well-preserved 12-centimeter-wide specimen, in 1999 joined ALH 84001 at the center of an intense debate concerning the nature of structures said by a team of NASA researchers to be the remains of microscopic martian life.

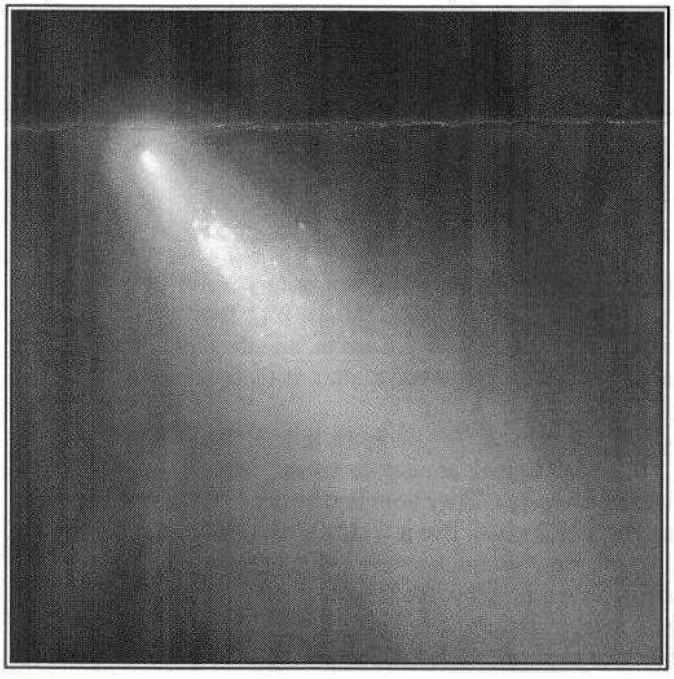
New evidence emerged that the Nakhla meteorite might contain evidence of past martian life. In a sample of the meteorite held by London's Natural History Museum, researchers found a carbon-rich substance filling cracks within the rock. The material resembles that found in veins apparently etched by microbes in volcanic glass from the Earth's ocean floor. Initial measurements suggest that the carbonaceous material did come from Mars and is not contamination from Earth. The research team includes members who brought evidence for microbial life in ALH84001. Details were presented at the 37th Lunar and Planetary Science Conference in March 2006 in Houston, Texas.

Watching comet 73P break up

Giant telescopes around the world are capturing spectacular views of the near-Earth disintegration of Comet 73P/Schwassman-Wachmann 3. The comet is now comprised of scores of fragments and millions of tinier pieces. A new infrared image from the Spitzer Space Telescope of the unfolding destruction captures comet fragments boiling away plumes of dust and gas as they are blasted by the solar wind.

The astronomers are hoping that by measuring the brightness of the extent of the debris trail, which can't be see in visible light, they can find out whether most of the comet vaporises from evaporating ice, the house-sized chunks seen in recent Hubble Space Telescope images, or by way of meteor-sized debris seen in the Spitzer images.



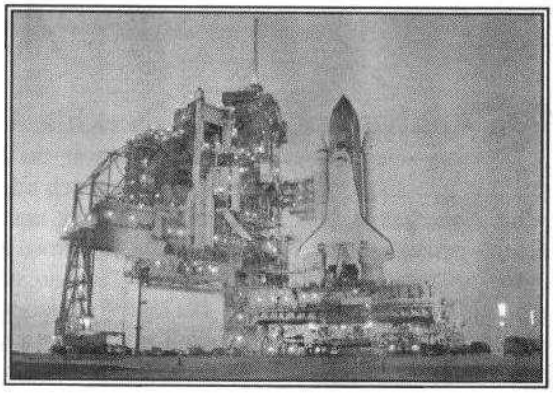


(HST image of comet 73P fragment B)

Recent new visible light images of the comet, taken in early May, were released by astronomers who caught the disintegration drama with the 8.2-metre Subaru Telescope in Hawaii. Compared to observations five days before by VLT [the Very Large Telescope, in Chile], some more parts have been breaking off the cometary components. These recent observations suggest that the cometary fragments are undergoing a vast number of fast and dynamic changes. One Subaru close-up of the wake of the comet's 'Fragment B' shows distinct miniature comets dropping away in the wake. Subaru astronomers have counted 13 such mini-comets.

As a result of comet 73P/Schwassman-Wachmann's fragmentation during its 1995-perihelion passage, considerable amounts of dust was likely to have been ejected. The comet and also its dust trails are subject to perturbations, which spreads the area of possible meteor radiants across a vast portion of the sky in the Bootes/Canes Venatici area during May and June. The dust trail of the famous 1995 passage of comet 73P will be encountered by Earth in 2022 on May 31.205 UT at a 'miss distance' of only 0.0004 AU. A meteor storm may occur then.

Discovery ready for duty



The Space Shuttle Discovery stands at its launch pad at NASA's Kennedy Space Center, Fla. The shuttle arrived at 8:30 p.m. EDT Friday on top of a giant vehicle known as the crawler transporter.

"Rollout of Space Shuttle Discovery signifies the last major processing milestone in preparation for our next mission, STS-121," said Space Shuttle Program Manager Wayne Hale. "The entire team has worked tremendously hard to ensure we were prepared to move to the pad, and we are excited to continue moving toward a July launch."

The crawler transporter began carrying Discovery out of Kennedy's Vehicle Assembly Building at 12:45 p.m. Friday. The crawler's maximum speed during the 4.2-mile journey was less than 1 mph.

While at the pad, the shuttle will undergo final testing and hardware integration prior to launch, as well as a "hot fire" test of the auxiliary power units to ensure they are properly functioning. The rotating service structure then will be moved back around the vehicle to protect it from potential damage and the elements.

Discovery's launch to the International Space Station is targeted for July 1, with a launch window that extends until July 19. During the 12-day mission, Discovery's crew will test new hardware and techniques to improve shuttle safety, as well as deliver supplies and make repairs to the station.

Another upcoming milestone is the terminal countdown demonstration test, set for June 12 through 15. This countdown dress rehearsal provides each shuttle crew with the opportunity to participate in various simulated countdown activities, including equipment familiarization and emergency evacuation training.

Crater chains on Earth

What evidence is there that a fragmented comet has actually hit our planet? For the answer to that question, we look to the Sahara desert. In a remote windswept area named Aorounga, in Chad, there are three craters in a row, each about 10 km in diameter. It is believed this 'crater chain' formed by the impact of a fragmented comet or asteroid about 400 million years ago.

The chain was discovered in 1996. The main crater "Aorounga South" had been known for many years—it sticks out of the sand and can be seen from airplanes and satellites. But a second and possibly third crater were buried. They lay hidden until radar onboard the space shuttle (SIR-C) penetrated the sandy ground, revealing their ragged outlines. Crater chains are rare on earth but they are common in other parts of the solar system.

The first crater chains were discovered by NASA's Voyager 1 spacecraft in 1979 when the probe flew past Jupiter's moon Callisto, cameras recorded a line of craters, at least fifteen long, and evenly spaced. Eventually, eight chains were found on Callisto and three more on Ganymede.

How were the chains formed ? The mystery was solved in 1993 with the discovery of Comet Shoemaker-Levy 9. SL-9 was not a single comet, but a "string of pearls," a chain of 21 comet fragments created a year earlier when Jupiter's gravity ripped the original comet apart. SL-9 struck back in 1994, crashing into Jupiter. Onlookers watched titanic explosions in the giant planet's atmosphere, and it only took a little imagination to visualize the result if Jupiter had had a solid surface: a chain of craters.

Astronomers have since realized that fragmented comets and rubble-pile asteroids are commonplace. Comets fall apart rather easily; sunlight alone can shatter their fragile nuclei. Furthermore, there is mounting evidence that many seemingly solid asteroids are assemblages of boulders, dust and rock held together by feeble gravity. When these things hit, they make chains.

The Earth tends to hide its craters as wind and rain tend to erode them, sediments fill them in, and the tectonic recycling of Earth's crust completely obliterates them. On the Moon, there are millions of well-preserved craters as there is no wind and rain to erode them.

Amateur astronomer Emilio Gonzalez Adriana began searching for craters on Google by calling up the Kebira impact crater in Libya—the Sahara's largest. It was so easy to see, he recalls, "I decided to look around for more." Minutes later he was "flying" over the Libya-Chad border when another crater appeared. And then another. They both had multiple rings and a central peak, the telltale splash of a high-energy impact. "It couldn't be this easy!" he marveled. But it was. At least one of the craters had never been catalogued before, and both, almost incredibly, lined up with the Aorounga crater 200 km away: map. In less than 30 minutes, Gonzalez had found two good impact candidates and possibly multiplied the length of the Aorounga chain.

To prove a crater is a crater-and not, say, a volcano-researchers must visit the site to look for signs of extraterrestrial impact such as "shatter cones" and other minerals forged by intense heat and pressure. This kind of geological study can also reveal the age of an impact site, marking it as part of a chain or an independent event.

TWILIGHT

Twilight is before sunrise and again after sunset. There are intervals of time, twilight, during which there is natural light provided by the upper atmosphere, which does receive direct sunlight and reflects part of it toward the Earth's surface. Some outdoor activities may be conducted without artificial illumination during these intervals, and it is useful to have some means to set limits beyond which a certain activity should be assisted by artificial lighting. The major determinants of the amount of natural light during twilight are the state of the atmosphere generally and local weather conditions in particular. Atmospheric conditions are best determined at the actual time and place of events. Nevertheless, it is possible to establish useful, though necessarily approximate, limits applicable to large classes of activities by considering only the position of the Sun below the local horizon. Reasonable and convenient definitions have evolved.

Civil twilight is defined to begin in the morning, and to end in the evening when the center of the Sun is geometrically 6 degrees below the horizon. This is the limit at which twilight illumination is sufficient, under good weather conditions, for terrestrial objects to be clearly distinguished; at the beginning of morning civil twilight, or end of evening civil twilight, the horizon is clearly defined and the brightest stars are visible under good atmospheric conditions in the absence of moonlight or other illumination. In the morning before the beginning of civil twilight and in the evening after the end of civil twilight, artificial illumination is normally required to carry on ordinary outdoor activities. Complete darkness, however, ends sometime prior to the beginning of morning civil twilight and begins sometime after the end of evening civil twilight.

Nautical twilight is defined to begin in the morning, and to end in the evening, when the center of the sun is geometrically 12 degrees below the horizon. At the beginning or end of nautical twilight, under good atmospheric conditions and in the absence of other illumination, general outlines of ground objects may be distinguishable, but detailed outdoor operations are not possible, and the horizon is indistinct.

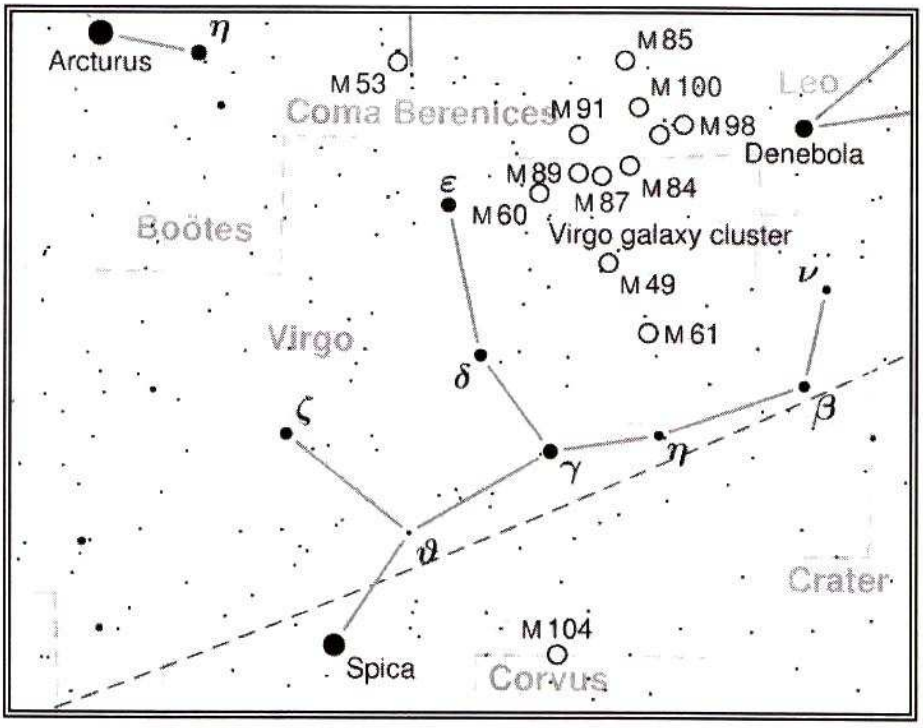
Astronomical twilight is defined to begin in the morning, and to end in the evening when the center of the Sun is geometrically 18 degrees below the horizon. Before the beginning of astronomical twilight in the morning and after the end of astronomical twilight in the evening the Sun does not contribute to sky illumination; for a considerable interval after the beginning of morning twilight and before the end of evening twilight, sky illumination is so faint that it is practically imperceptible.

Skywatchers Events

June

1st	Saturn close to Moon
4th	Moon first quarter
7th	Spica 0.1°S of Moon
10th	Moon close to Antares in Scorpius
12th	Full Moon
15-18th	Mars, Saturn & Beehive Cluster close together
17th	Spica 0.3°S of Moon (9pm)
19th	Moon last quarter
21st	Mercury low in evening sky
21st	Winter Solstice
26th	New Moon
28th	Mercury, Saturn, Mars located in a line
29th	Crescent Moon above Mars

Virgo – The Maiden



Virgo is the second largest constellation (after Hydra). As a member of the Zodiac, Virgo has a number of ancient myths and tales. The Sun passes through Virgo in mid-September, and is therefore the constellation that announces the harvest.

Virgo is often represented as a "maiden" (as its name indicates). In antiquity, she may have been Isis, the Egyptian protectress of the living and the dead and the principal mother goddess. In Roman times the goddess Ceres was depicted: the goddess of the growth of food plants and harvests, and particularly corn. Her festival was in the second week of April, the same time that the constellation appears in the Spring skies.

Virgo is unique in that it is the only constellation containing all the Bayer stars with no additional superscript letters or numbers: just the Greek alphabet from *alpha* to *omega*.

Alpha Virginis is known as ***Spica***: the "ear of wheat" that the goddess is carrying. *Spica* is a blue-white eclipsing binary with a period of just over four days. The star is twice the size of the Sun, with a luminosity of about 2000 times the Sun.

Double stars in Virgo:

Gamma Virginis is a splendid binary of similar 3.5 magnitude stars, with a recently revised orbit of 168.8 years. The 2000.0 values are PA 260° and separation 1.5".

Theta Virginis is a white star with two companions, both rather faint: AB: 4.4, 9.4; PA 343, separation 7.1"; AC: 4.4, 10.4; PA 298°, separation 70".

Phi Virginis is a fixed binary: 4.8, 9.3; PA 110°, separation 4.8". The primary is a delicate yellow.

Deep Sky Objects in Virgo:

Virgo has some exceptional deep sky objects: the Virgo Galaxy Cluster, which contains eleven Messier Objects, more than any other constellation except Sagittarius (which has 15). There are also many fine NGC objects in the same vicinity, some just as splendid as the Messiers (such as NGC 5364 and the Siamese Twins: NGC 4567 and 4568. The region from Coma Berenices down through Virgo is renowned for its galaxies: the Virgo Galaxy Cluster, considered to be about 42 million light years distant. In the midst of dozens of bright galaxies are eleven chosen by Messier for his catalogue.

M49: a bright elliptical found between two six magnitude stars.

M58: bright compact barred spiral, but it takes a good night and at least a medium sized telescope to see the central bar.

The Siamese Twins (NGC 4567 and NGC 4568) are 0.5 degree southwest: two faint galaxies seemingly joined in the middle.

Also in the same vicinity are *M59* and *M60*: two small but bright ellipticals.

M61: armed spiral seen face-on, very bright. This is one of the largest galaxies associated with the Virgo Cluster, and may have a mass of fifty billion Suns. Three supernovae have occurred in M61, the last in 1964.

M84, M86, and *M87*: three more ellipticals, in a very rich region. M87 is the centre of the Virgo Cluster, and is one of the most luminous galaxies known.

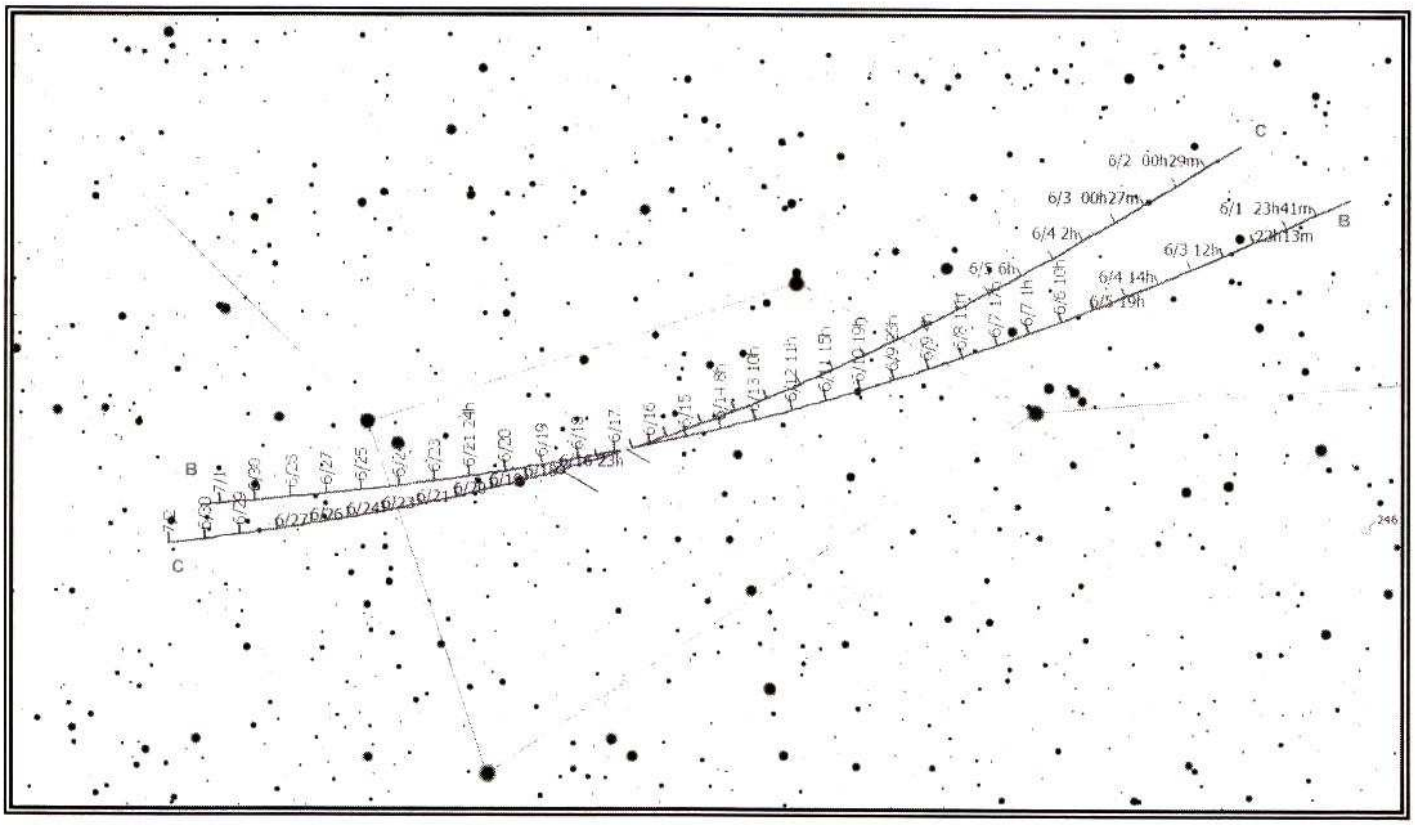
M89: small elliptical, resembling M87 but fainter.

M90: nice spiral in same region as M89.

M104: The Sombrero Galaxy. Truly magnificent, this galaxy is isolated from the rest (although apparently is still a member of the Virgo Cluster). Seen edge-on, the huge luminous nucleus is surrounded by a dark dust lane, which should be visible even in smaller telescopes (depending on the quality of the night sky).

Comet 73P/Schwassmann-Wachmann 3

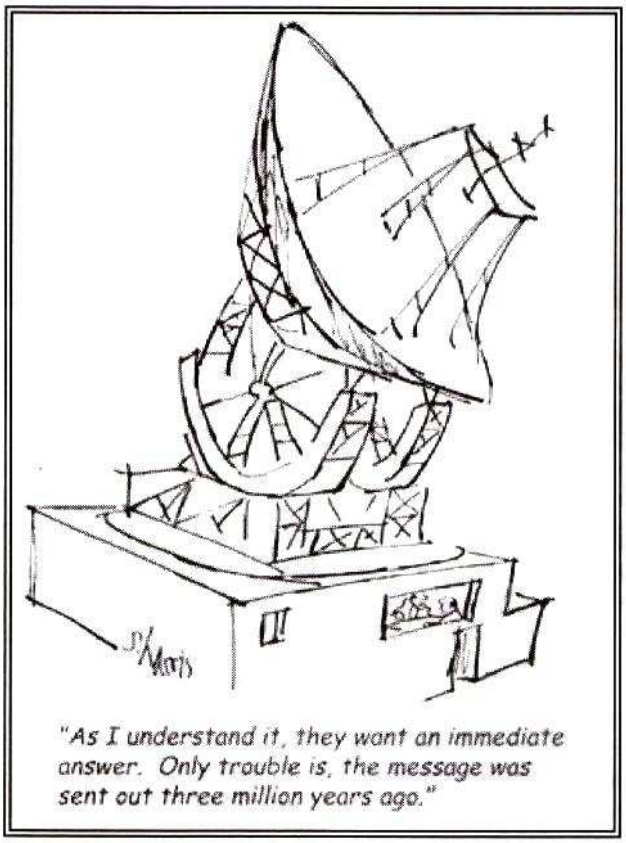
Comet 73P come closer to Earth than any comet has come in over 20 years. On the 12th of May it reached its closest approach to Earth at 12 million km. The comet was first seen in 1930 and although it is a short-period comet, returning to the inner Solar System every 5 years or so, once it was discovered it vanished from our skies until 1979. The comet broke apart during its return in 1995 and it is now a long string of around 40 separate pieces each following the same path.. At their brightest the comet fragments are estimated to reach up to 4th magnitude. The dust trail of the famous 1995 passage of comet 73P will be encountered by Earth in 2022 on May 31.205 UT at a 'miss distance' of only 0.0004 AU. A meteor storm, similar to the levels of the famous Leonids, may occur but its quite a long time to wait! The comet fragments will pass through Cetus in June. Further information on visible comets and finder charts can be found at http://www.skyhound.com/sh/comets.html .



WEB SITES

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

Visible comet information	: http://www.skyhound.com/sh/comets.html
NASA	: http://www.nasa.gov/home/index.html
Universe Today	: www.universetoday.com/
International Meteor Organisation	: www.imo.net
Astronomy news	: http://www.astronomy.com/



"As I understand it, they want an immediate answer. Only trouble is, the message was sent out three million years ago."

"Sure it's beautiful, but I can't help thinking about all that interstellar dust out there."

Historical Anniversaries :

60 Years Ago – 1946

Jun. 28: First fully instrumented upper air research V-2 launched, reached height of 67 miles. White Sands Proving Grounds, NM

40 Years Ago – 1966

Jun. 2: Surveyor 1 landed on the moon, first US spacecraft to do so. Launched May 30, 9:41 a.m., EST, ESMC.

Jun. 3: Gemini 9 launched, astronauts Thomas P. Stafford and Eugene A. Cernan. 8:39 a.m.. EST, ESMC.

Jun. 6: OGO 3 launched, 10:48 p.m., EDT, WSMC.

35 Years Ago – 1971

Jun. 4: Last flight of the X-24A, Dryden Flight Research Facility, CA. Pilot John A. Manke.

Jun. 6: Soyuz 11 launched, 0455 UT, Baikonur, USSR. First crew to the Salyut 1 space station and work on a space station. Crew composed of Dobrovolskiy, Volkov and Patseyev died during reentry, June 30.

Jun. 20: Planetary Atmosphere Experiment Test (PAET) launched, 3:31 p.m., EDT, on Scout launch vehicle, WFC, VA.

30 Years Ago – 1976

Jun. 18: Gravity Probe A launched, 7:41 a.m., EDT, WFC, VA.

Jun. 22: Salyut 5 Launch (USSR Space Station)

15 Years Ago – 1991

Jun. 5: STS-40 (Space Shuttle *Columbia*) making its twelfth flight. Launched at 9:25 a.m., EDT, KSC. Astronauts: Bryan O'Connor, Sidney Gutierrez, Rhea Seddon,, James Bagian, Tamara Jernigan, Drew Gaffney, and Millie Hughes-Fulford. Spacelab (SLS-I) in cargo bay. Landed Jun. 14 at 8:39 a.m. PDT, at Edwards Air Force Base, CA. Mission duration: 9 days, 2 hours, and 14 minutes.

10 Years Ago – 1996

Jun. 20: STS 78 (Space Shuttle *Columbia*) launched at 10:49 a.m. EDT, KSC. Astronauts: Terence T. Henricks, Kevin R. Kregel, Susan J. Helms, Richard M. Linnehan, Charles E. Brady, Jr., Jean-Jacques Favier, and Robert Brent Thirsk. Carried Spacelab (LMS-1). Landed July 7 at 8:37 a.m. EDT, at KSC. Mission Duration: 16 days, 21 hours, and 48 minutes.

Jun. 27: Galileo, Ganymede 1 Flyby.

5 Years Ago – 2001

June 30: MAP (Microwave Anisotropy Probe) is an NASA Explorer mission measuring the temperature of the cosmic background radiation (the remnant heat from the Big Bang). It was launched by a Delta 2 rocket from Cape Canaveral at 19:46 UT.

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	Kevin Rossiter		
		Terry Ryan	Bob Heale		
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.
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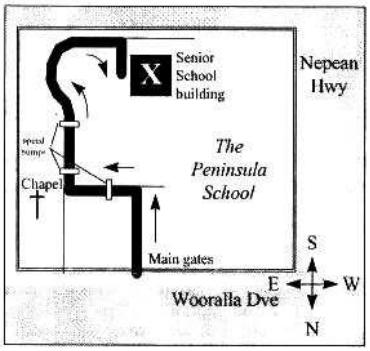
Internet: http://www.mpas.websyte.com.au
E-mail: skywatch@iprimus.com.au



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

1st June, Thursday	- Viewing night for Dromana Rotary at the Briars
2nd June, Friday	- Public viewing night at Briars
10th June, Saturday	- Astrophotography evening at the Briars
21st June, Wednesday	- General Meeting at The Peninsula School
	- Session 1 : General Meeting and speaker
	Session 2 : Video - "The Day the Earth was Hit (Tunguska)"
	Session 3 : Open forum and *Sky for the Month*

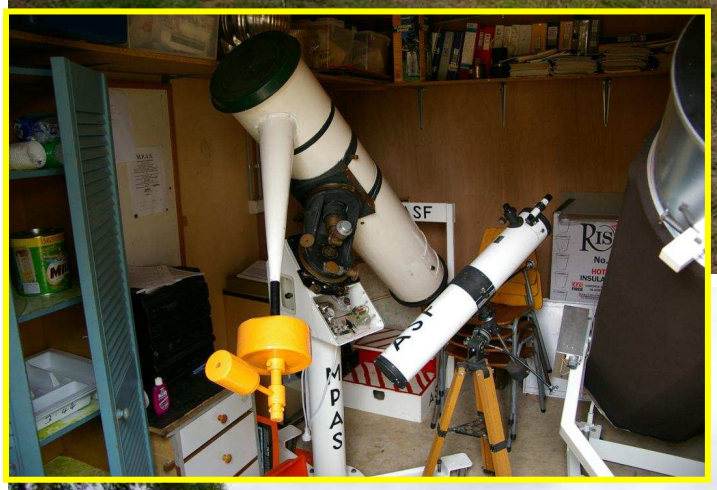
Join the E-scorpius newsgroup

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 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.

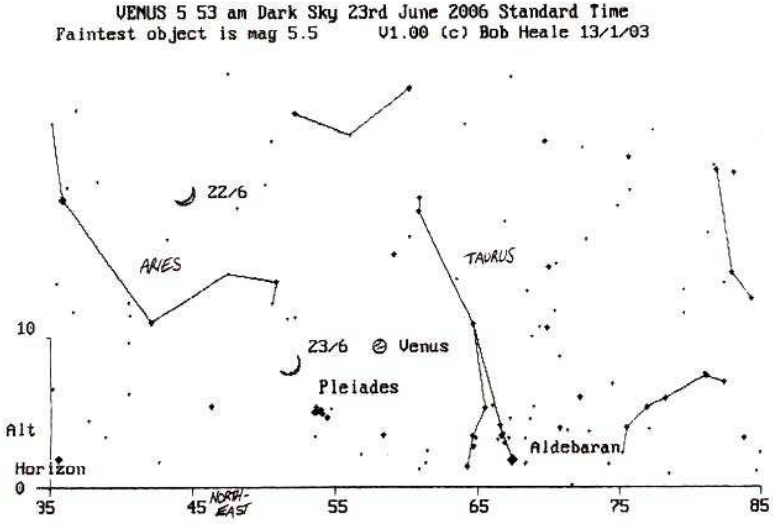
Contributions to Scorpius

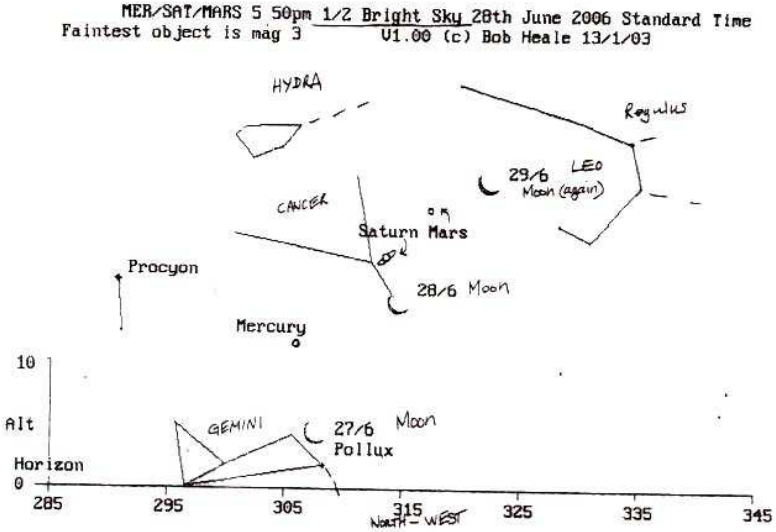
If you would like to submit an article or written contribution to Scorpius then please send your submission to MPAS, PO BOX 596, Frankston, Vic, 3198
or email to quasar3671@aapt.net.au (Attn : Marty Rudd).
Any astronomical events that you have witnessed or tales you would like to tell, things you have for sale (eg : telescopes, eyepieces etc.) then please send them in. All contributions are welcome.

Scorpius Extra!!!!! Briars working Bee 9 April 2006 - Photos *By Greg Walton*



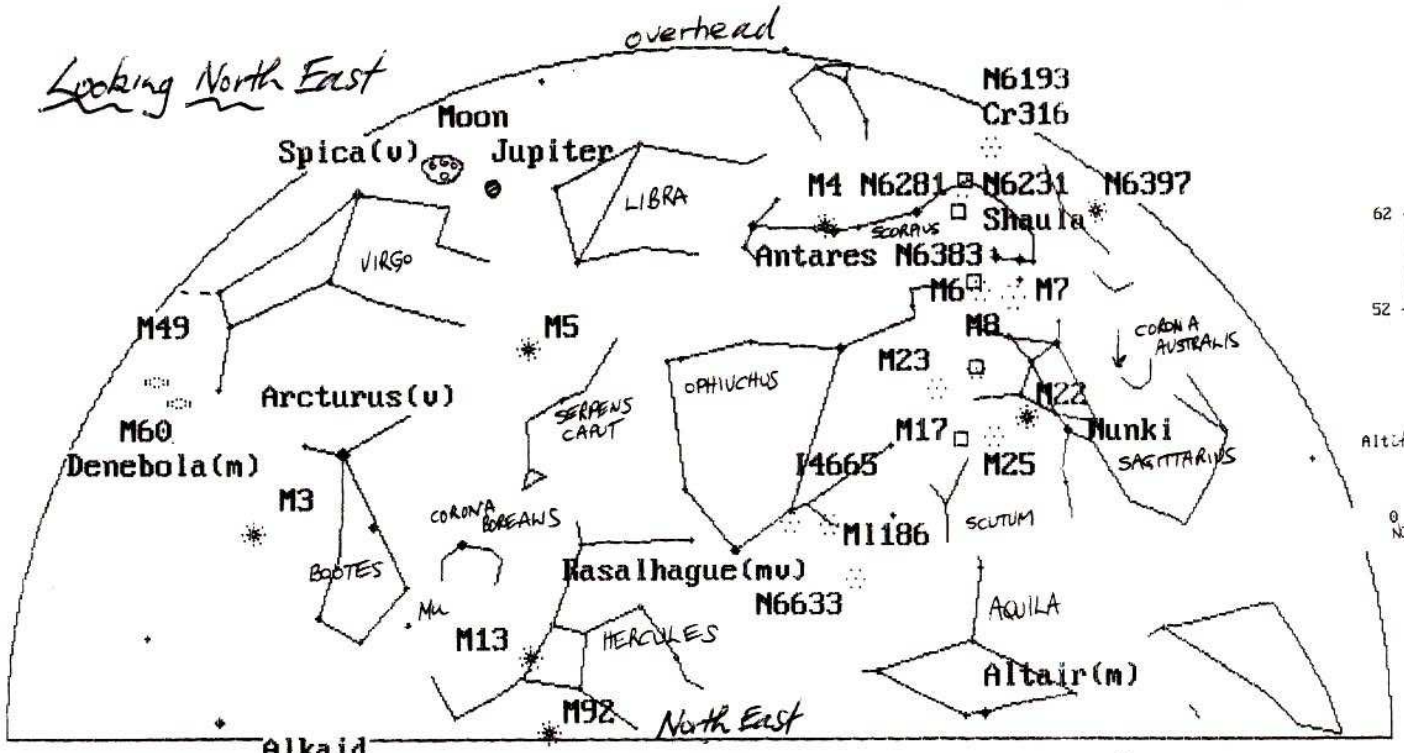
SKY FOR THE MONTH 21ST JUNE TO 18TH JULY 2006 MORNINGTON PENINSULA

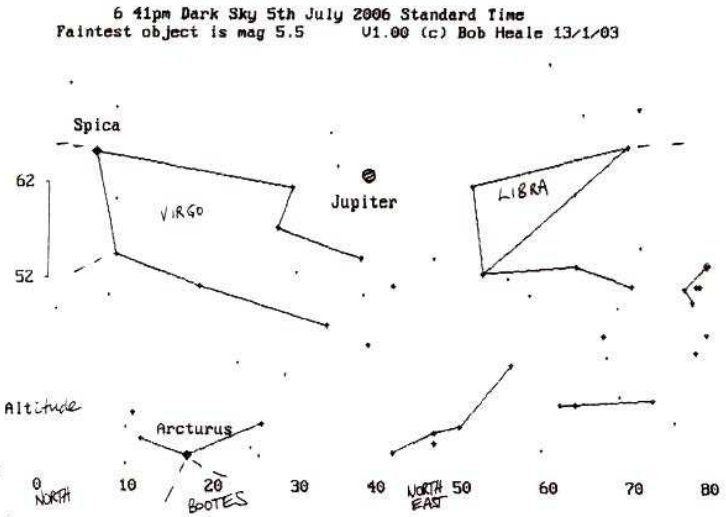




Worthwhile objects North East sky below left

- show piece SAGITTARIUS region rising, SCORPIUS above, if not height scary
- easy colour contrasting telescope double Mu Bootis
- wide clusters IC4665, M11 Wild Duck, NGC6633 OPHIUCHUS region
- globulars M3, M5, M13 M92 (lucky!)

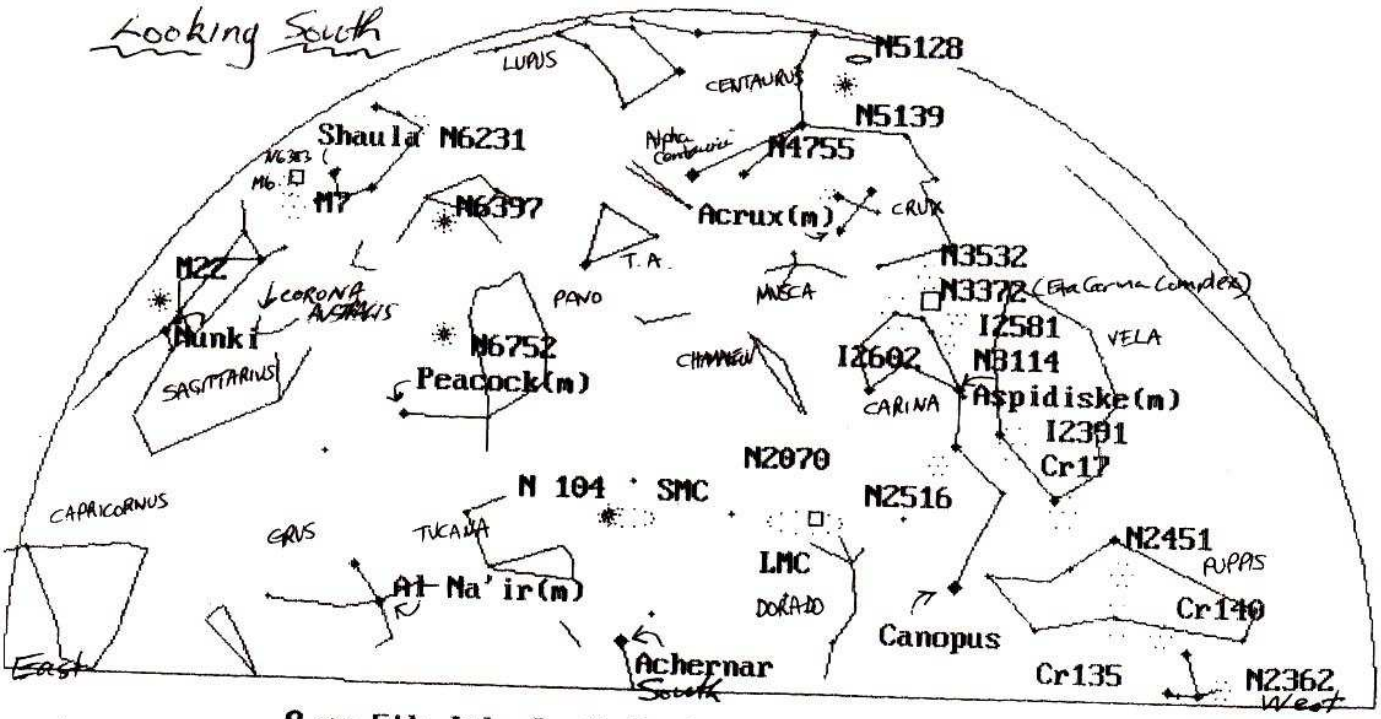




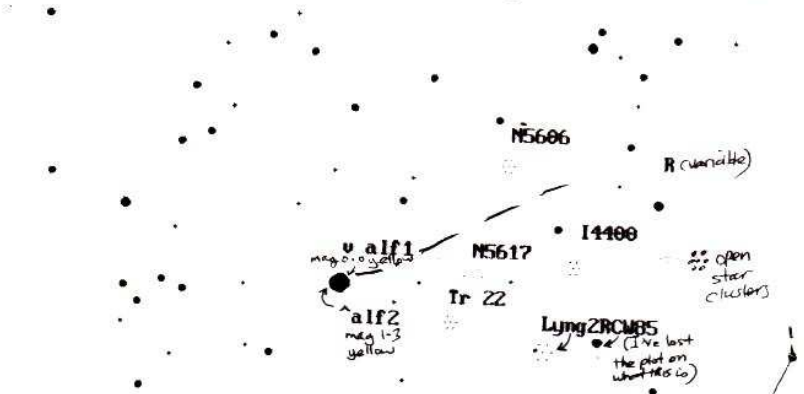
Bob Heale MPAS
19/6/2006

8 pm 5th July NE Dark Sky 2006 Standard Time, also 9pm 21st June and 18th July 7pm, Standard Times

Mornington Peninsula Astronomical Society

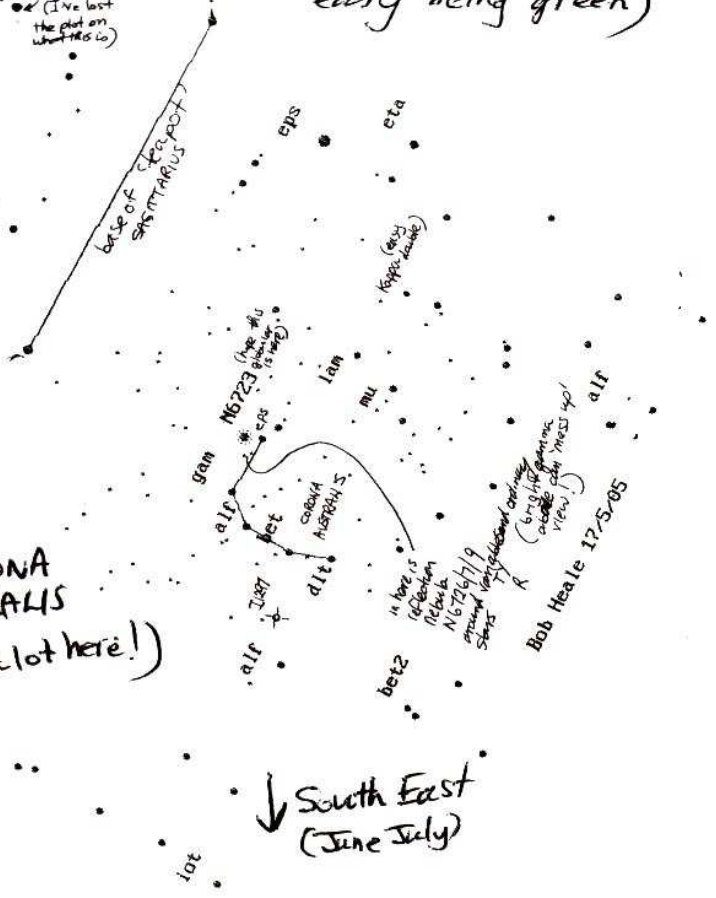


21st June and 9 pm 5th July South Dark Sky 2006 Standard Time, also 9 pm 1pm 18th July, Standard Times



Worthwhile objects South above

- CENTAURUS/CRUX region
- CARINA/VELA before too low (easy'er with manual telescope than overhead)
- PAVO globular N6752
- planet Envied (Ares not easy being green)

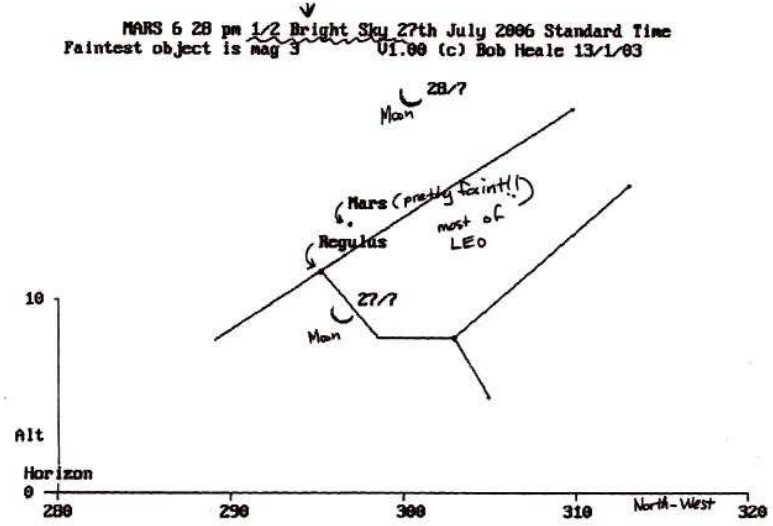


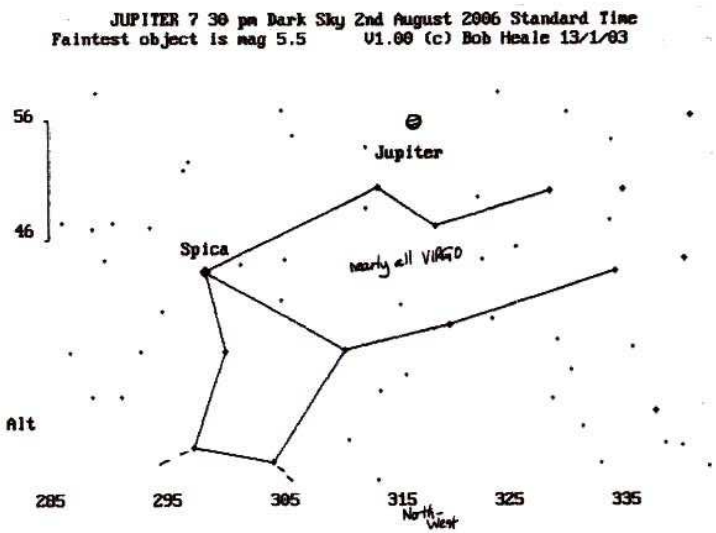
Bob Heale MPAS 19/6/2006

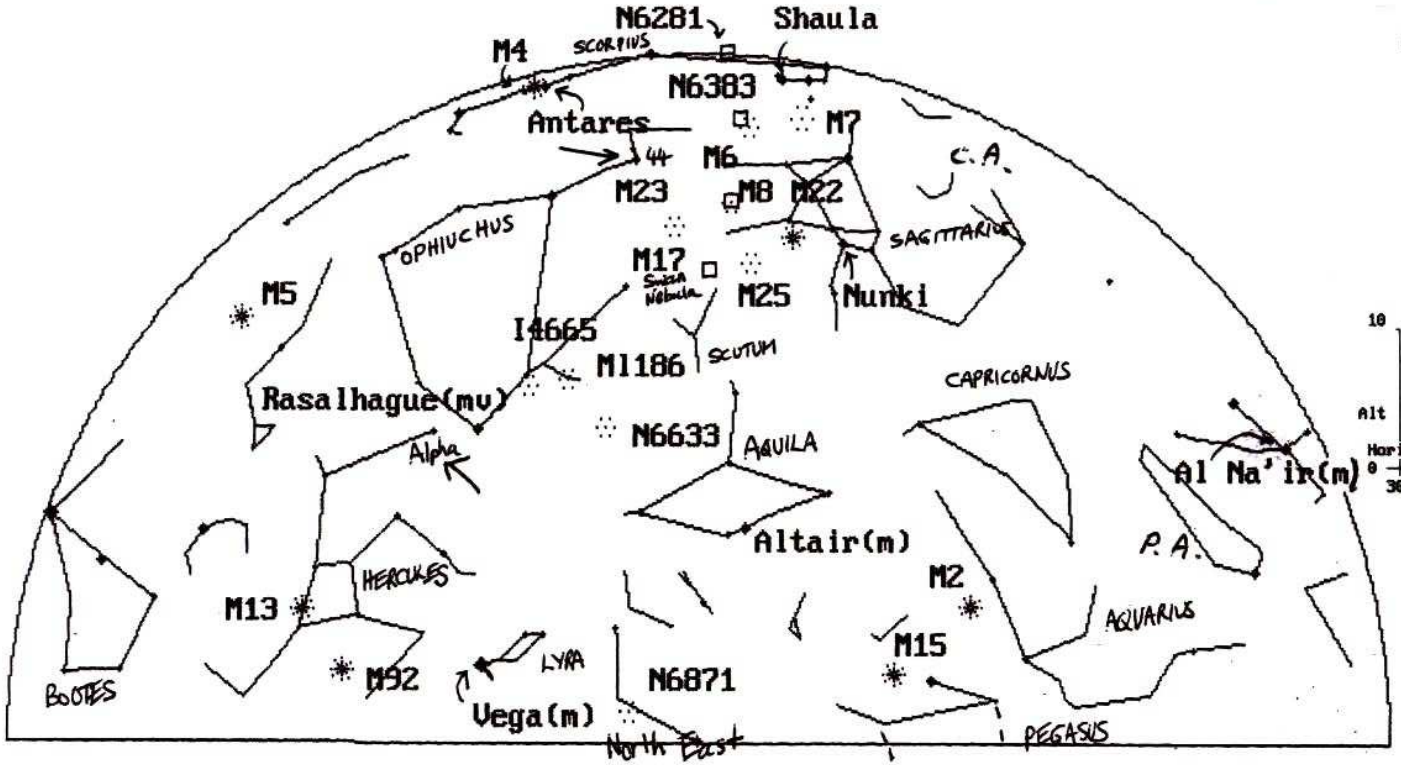
CORONA AUSTRALIS (not a lot here!)

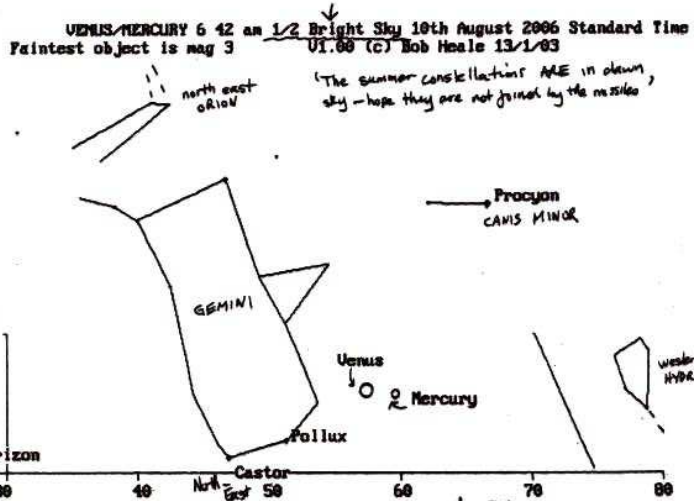
South East (June July)

SKY FOR THE MONTH 19TH JULY 2006 TO 15TH AUGUST 2006 MORNINGTON PENINSULA









19th July 2006 and 7 30pm 16th August 2006, Standard Times

8 30pm 2nd August NE Dark Sky 2006 Standard Time, also 9 30pm

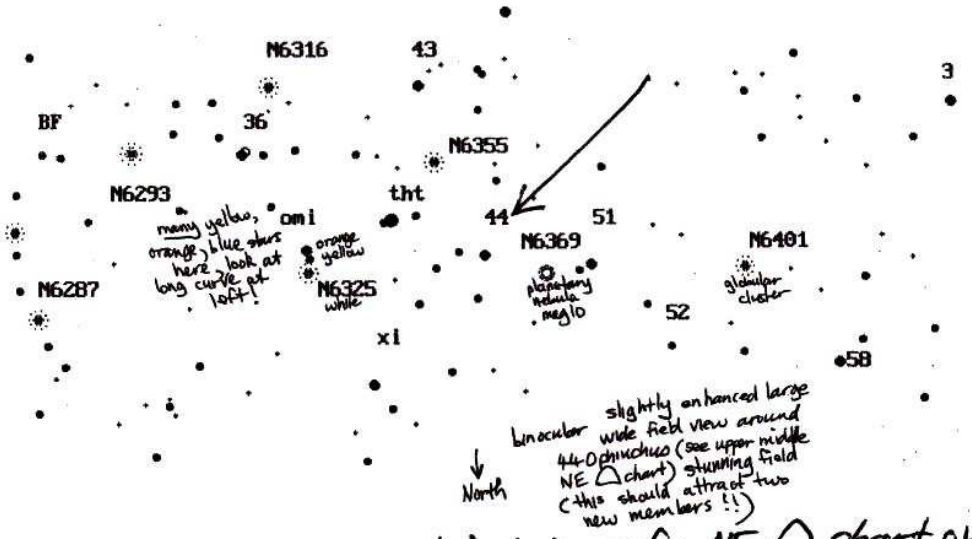
Worth while objects at left, amongst others are :—

— wide field around white star 44 Ophiuchi

— the telescope double red/blue Alpha Herculis

Bob Heale MPAS
17/7/2006

Mornington Peninsula Astronomical Society



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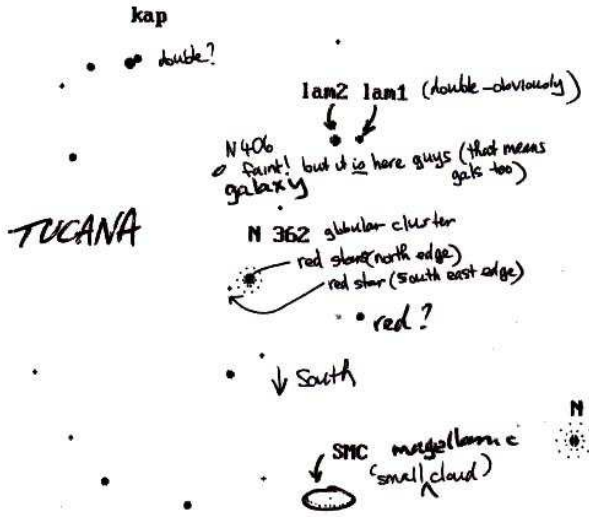
1/7/2006

Region around 44 Ophiuchi - refer NE chart over

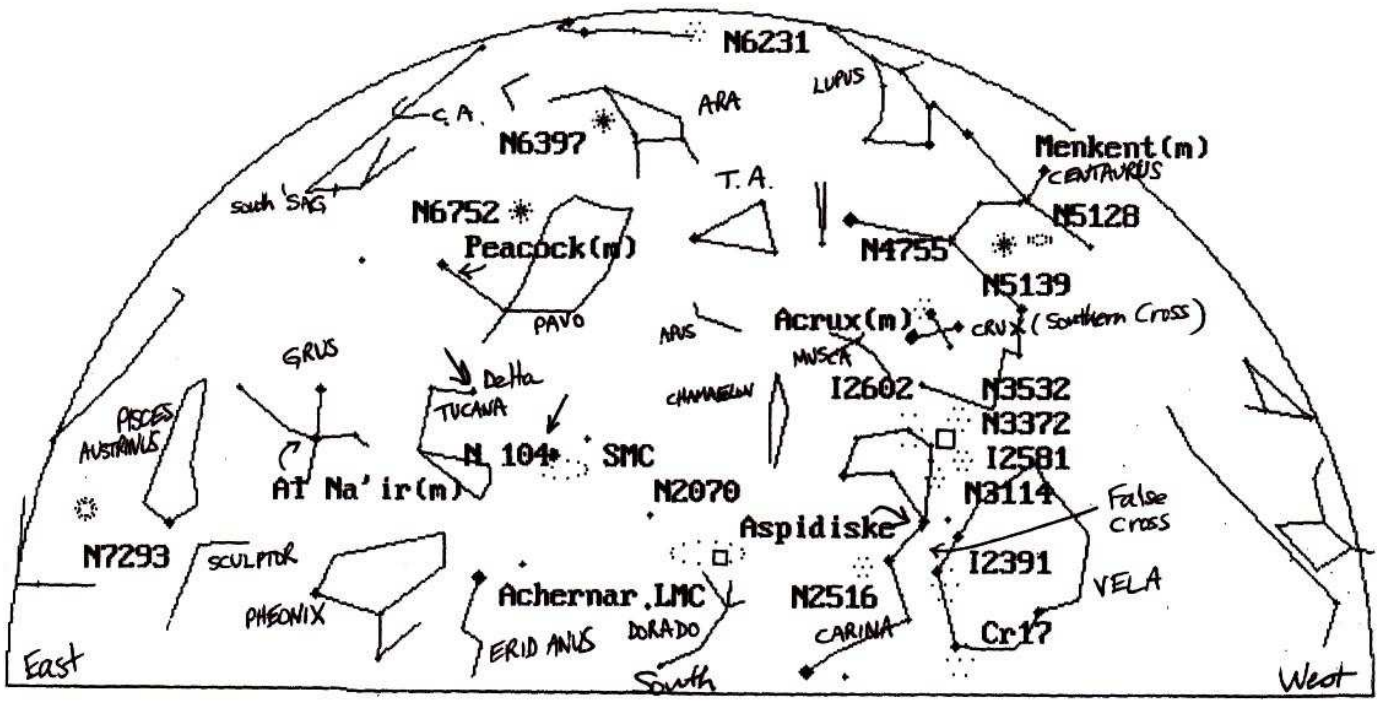
this chart refer above



If you cannot or don't want to look for faint galaxy N406, there is

- the doubles kappa and lamda2, lamda1
- globular clusters N362 and N104 (very easy)
- small magellanic cloud globular N362 has a few orange or red? stars close and very close

N406 maybe large but it has increasing brighter central region and some easterly wisps! at 165



8 30 pm 2nd July South Dark Sky 2006 Standard Time, 9 30pm 19th July 2006 and 7 30pm 16th August 2006 Standard Times