SCORPIUS

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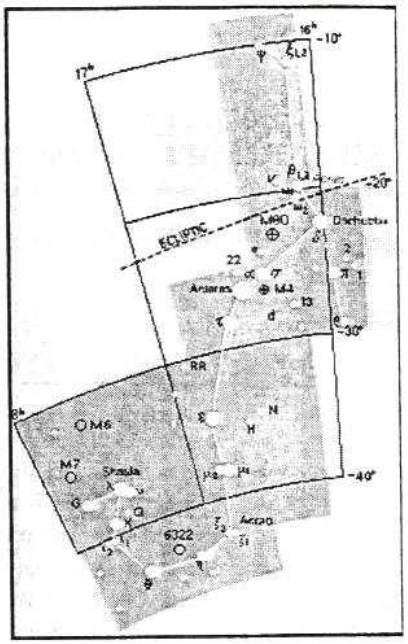
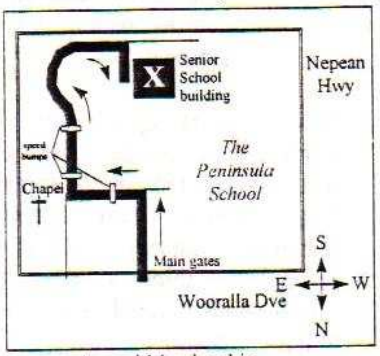


The Astronomical Society of Frankston was founded in 1969 with the aim of fostering the study of Astronomy by amateurs and promoting the hobby of amateur Astronomy to the general public. The Society holds a General Meeting each month for the exchange of ideas and information. Regular observing nights, 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.

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 253252**
Internet: http://www.peninsula.starway.net.au/~aggro/index.html
Email: aggro@peninsula.starway.net.au

Visitors are always welcome!



Annual Membership

Full Member	$35
Pensioner	$30
Student	$25
Family	$45
Family Pensioners	$40
Newsletter Only	$16
Organisation	$50

DUE 1ST OF JANUARY EACH YEAR

President
Peter Skilton (03) 97765898

Vice President
Richard Pollard (0419) 100 802

Treasurer
Bob Heale (03) 9787 1748

Secretary
Sally Zetter

Committee of Management

John Cleverdon, , Peter Lowe, Russell Thompson, Ian Sullivan, Martin Rudd

Acting Editor
Ian Porter jedi@alphalink.com.au

All phone calls before 8:30pm please.

FUTURE EVENTS

General Meetings:

Wed 17th January 2001 At the Peninsula School
Session 1: **"The scale of the Universe"** Peter Skilton
Session 2: Loan telescope outside if weather is clear.
Session 3: Video "2001 a space Odyssey"

Wed 21st Feb 2001 at the Peninsula school

Session 1 : Forum
Session 2 : : Loan telescope outside if weather is clear.

Wed 21st March 2001 at the Peninsula school

Session 1 : Beginners session " **To see what you can see**" Ian Porter
Session 2 : : Loan telescope outside if weather is clear.

Viewing Nights:

Members Only:
Sat Jan 20/27 Feb 17/24 Mar 24/31 all at *The Briars*, Nepean Hwy, Mt.Martha (Melways 151/E1).

If weather forecast for the Saturday looks bad, the Friday before may be used instead. New attendees must always confirm with **Ian Porter** on 5985 4203 before attending. Remember for security reasons you can only attend on planned Members' Nights, unless by prior arrangement with Ian who will liaise with *The Briars* accordingly. Last person out must switch on the shed security light.

Public, School & Community Groups Viewing/slide nights:
If you can assist, please contact the Vice President.

- The once-a-month basic public viewing nights at *The Briars* will continue on the first Friday of each month. The next nights are on Fri 2nd Feb and Fri 6th Mar, all at 8pm. Assistants are required.

- Extra public nights have been scheduled at the Briars, on each Monday of the Holiday Period. Monday 8th , 15th,22 and 29th of Jan at 8pm at the Briars visitor centre. Please come along if you can help.

Phenomenal Events:

A total eclipse of the Moon on Jan 10th will not be a favourable event from the eastern states, with the Moon entering the earth's shadow in the morning twilight.

Society Events

- Sunday 14th Jan. Working Bee at the Briars site
- Sunday 11th Feb working bee and solar observing day at the Briars site. Bring along your scope to get the low-down on solar observing and share ideas and techniques.

YOUR SOCIETY

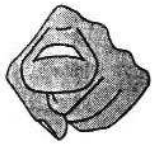
NEW MEMBERS

Welcome to the following new Society members:

Graham Holland

The ASF is one of the largest astronomy groups in Australasia. Membership is currently at 154. Please feel free to say hello at general meetings. Specialised badges, windcheaters, T-shirts, books & posters are available at meetings. Society name tags are free to new members who attend meetings. Members are able to borrow library books and are entitled to attend special viewing nights at *The Briars* where you can discover the secrets and glories of the night sky.

HELP NEEDED



Articles, features, book reviews, member observations and points of general interest for this journal are always welcome. New contributors are encouraged. For example do a bit of reading and pass on some information, but remember not to plagiarise. Hand written material is fine; computer text files are perfect. Email contributions to jedi@alphalink.com.au or hand them to the editor at a general meeting

RECENT MEETINGS

- November saw the final meeting for the year and the annual AGM. Thanks were expressed for the work of the outgoing committee, and we saw the inclusion of several new faces on the new committee. Good luck for the new year!
- Members should note that a resolution increasing subscriptions was passed at the AGM. New subscription rates are as follows:

Full Member	$35
Pensioner	$30
Student	$25
Family	$45
Family Pensioners	$40
Newsletter Only	$16
Organization	$50

- Renewals are due on Jan 1 each year. A $4 surcharge applies to subscriptions overdue by 3 months.

Ian Porter

- It was a big day at The Briars on 4th Nov, when we got the grass mowed right down and planted more trees to form a light break from a recently installed security light at Josephines. We only got half way through the planting though, with the remaining 30+ trees going in during December at another working bee, which also was well attended.
- The Peter Norman telescope was fitted with the refurbished mirror, so we now have a 12 inch reflector on site for viewing nights.
- A very special thanks is offered to Ken Beard of the ASV for recoating the society's mirror for free. Initial daylight views of the Moon and the Sun seemed to indicate it was working well, all that is required is precise collimation. On this front, Jeremy Scott is currently grappling with the society's laser collimator to improve its design so it doesn't keep getting knocked out of alignment itself.

Thanks to those who helped out at the working bee: David "whipper snipper" Girling and kids, Peter & Ros Skilton and kids, Rene Skilton, Sally & Graeme Zetter, John and Roger Cleverdon, Philip Snelling, and Trevor Unwin for reducing foot high grass to lawn with the ride-on mower after a couple of passes. Several photos were taken, and these can be seen on http://home.iprimus.com.au/alphacent/observatory.html.

- Our Librarian, Kathy Stabb, is ill in hospital at the moment of publishing and we would like to pass on our best wishes and hope she has a speedy recovery.

10/12/00 working bee - on a very warm afternoon, this went ahead with mowing, moving the caravan to help as a light shield, planting the remaining surviving trees, and giving everything a good water. Those who turned up :Richard Pollard, Bruce Tregaskis, Peter Skilton, Rene Skilton, Jeremy Scott,Ken Bryant, Don Leggett, Cleverdon family. Unusually, no kids were there this time.

SCHOOL AND PUBLIC NIGHTS

8/10/00 Thomas Mitchell Primary School at Endeavour Hills. 200 grade 5 students and teachers received a talk by Richard Pollard and Peter Skilton who battled with a recalcitrant slide projector while twilight advanced, then they all eagerly moved in orderly fashion out to the basketball court where a flotilla of 13 telescopes were set up of all shapes and sizes, including a computer controlled LX200, 21.5 inch Dobsonian, video camera and

monitor and numerous others. While Venus, Saturn, Jupiter and the Moon were the pride and joy of the evening in many instruments, the recently discovered comet was keenly shown around by John Cleverdon, and there was no shortage of artificial satellites and meteors, maybe Geminids. Jeremy Scott's video camera drew much attention, as did Mark Hillen's LX200. The detailed views of Jupiter's red spot and band system markings, and possible views of Saturn's crepe ring were enthusiastically shared around. After the kids and teachers left by 11pm, most stayed on for the viewing until at least midnight as the conditions were very mild and seeing quite good (given the Moon's phase). Thanks to David Huby, Val and Greg Walton, Russell Thompson, John Cleverdon, Mark Hillen, Renato Alessio, Ken Bryant, Peter Lowe, Bruce Tregaskis, Jeremy Scott, Bob Heale, Peter Skilton, Richard Pollard.
Peter Skilton

For Starters

Rod Stubbings, plumber by day, amateur variable star observer for the Latrobe Valley Astro Society by night, has been mentioned in this recent IAU circular.

Circular No. 7552
Central Bureau for Astronomical

POSSIBLE NOVA IN PUPPIS
T. Kato, Kyoto University, reports the discovery by Kazuyoshi Kanatsu (Matsue, Shimane, Japan) on his T-Max 400 film exposures of a new variable star at R.A. = 7h37m58s, Decl. = -25o56'51" (equinox2000.0). Kanatsu finds no apparent counterpart on the Digital SkySurvey. K. Takamizawa (Saku-machi, Nagano) reports that the new object was not present on 22 T-Max 400 exposures (limiting mag 14)taken by himself between between 1994 Mar. 14 and 1999 Dec. 3; he notes the presence of a close stellar companion of mag 14.5, which is apparently a red star (red mag 13.6) in the USNO A2.0 catalogue having position end figures 58s.43, 46".8. Available magnitudes:2000 Jan. 15.72 UT, [11.7 (Kanatsu; T-Max 400); Nov. 28.703, 8.6(Takamizawa; T-Max 400); Dec. 22.578, 8.8 (Takamizawa); 22.731, 8.7(Kanatsu); 30.585, 8.8 (A. Takao, Kitakyushu, Fukuoka, Japan;unfiltered CCD); **30.612, 9.2 (R. Stubbings, Drouin, Victoria,Australia; visual).**

Text from IAUC circular 7552

HUBBLE SEES LONE NEUTRON STAR STREAKING ACROSS GALAXY

Several hundred million of them may be found in our galaxy, but the world's most powerful telescope has captured the one thought to be closest to Earth. NASA's Hubble Space Telescope has caught up with a runaway neutron star believed to be 200 light years away.

The object known as RX J185635-3754 is expected to swing by the planet at a safe distance in about 300,000 years. A neutron star is the remnants left behind after a supernova explosion, as the material at the core collapses into a dense mass of neutrons. The star has the mass of the sun packed into an area about 19 kilometres in diameter.

Precise observations made with the Hubble telescope confirm the isolated interstellar traveller is now located in the constellation Corona Australis. Since the object has no companion star that would affect its appearance, this discovery will allow future astronomers to more easily confirm stellar theories against a variety of its physical properties such as size, inherent brightness and true age.

Because this is the closest and brightest of the few known isolated neutron stars, it is the easiest to study and is an excellent test bed for nuclear astrophysical theories. The scientific importance of this object lies in the fact that the neutron star is isolated. It appears to be hot, not because it is accreting hydrogen gas as it moves through space, but because it is still young and cooling off. Since we know its approximate age, we can test how fast neutron stars cool off.

The neutron star's wayward trajectory was caught in three Hubble snapshots taken in 1996 and 1999. The images also show the star moves across the sky with an apparent wobble, caused by a reflection of the Earth's own orbital motion, called parallax.

In addition, the images reveal that the neutron star is streaking across the sky from west to east at a rate equal to the diameter of the Moon every 5,400 years. Although this apparent motion may seem slow, it is actually one of the fastest-moving stars in the sky. The apparent motion, combined with the distance, means the energetic ember is moving at a speed of about 400,000 km/hour.

This neutron star may have formed about 1 million years ago when a massive star in a binary star system exploded as a supernova, releasing its companion star, an ultra-hot, blue star now known as Zeta Ophiuchus. Because the neutron star and Zeta Ophiuchus were in about the same location in space, RX J185635-3754 may be the remnant of the original binary companion of Zeta Ophiuchus.

The runaway neutron star was first reported in 1992, when astronomers detected a very bright source of X-ray emission with the Roentgen Satellite (ROSAT). Because it was not seen in optical light and appeared to be within 500 light-years of the Earth, researchers surmised it was likely to be a neutron star.

The object is very faint (26th magnitude), and has a blue colour. The blue colour indicates that the object is hot, about one million degrees Celsius, as expected from the bright X-ray emission.

In September, images taken with the European Southern Observatory's Very Large Telescope showed a small, cone-shaped "bowshock" in

front of the neutron star, created as the star ploughed through interstellar space.

ENDEAVOUR UNVEILS A BRIGHT NEW STAR

Space Shuttle Endeavour and its five-member crew recently opened a new chapter in the saga of the International Space Station (ISS) when the crew of STS-97 unveiled a new star on the horizon by adding a pair of giant solar wings to the orbiting platform.

Endeavour carried a 20 tonne package of immense solar arrays and associated batteries, electronics and cooling equipment to the space station - the heaviest and largest station elements flown to date. Once deployed on ISS, this first set of solar sails measured 80 metres tip-to-tip, a wingspan greater than that of a jumbo jet.

When all the solar arrays are fully deployed, they will generate enough power to run 15 average-sized homes on Earth. People will be able to look up and see the brightest new star in the sky. Only the Moon and star Sirius will shine brighter.

Folded into two boxes only 20 inches thick for launch, the solar arrays contain more than 64,000 individual power-generating cells. The sails being unfurled to their full length should be one of the most stunning scenes ever transmitted from Earth orbit.

The current set of arrays will quintuple the amount of electrical power available on the station, paving the way for delivery of the first research laboratory, the U.S. Destiny module, on STS-98 in January. Once in orbit, the Destiny module will be the most sophisticated science laboratory ever launched into space.

The solar panels will provide a much-needed power boost to the station and its Expedition One crew, led by American Commander Bill Shepherd, allowing the crew to begin its first science experiments.

Experiments include a student project that will study the effects of weightlessness on soybean and corn seeds; an experiment sponsored by the Massachusetts Institute of Technology and the U.S. Air Force that will study control mechanisms for future satellites; cameras and equipment that will be used to track environmental changes and other areas of scientific interest around the world as part of continuing Earth observations by the station crew; and several medical evaluations that will study the operation of the treadmill and resistive exercise equipment on the station.

ASTROBIOLOGISTS FIND EVIDENCE OF EARLY LIFE ON LAND

Scientists with NASA's Astrobiology Institute (NAI) have discovered fossilised remnants of microbial mats that developed on land between 2.6 billion and 2.7 billion years ago in the Eastern Transvaal district of South Africa.

This significant discovery presents the strongest evidence to date that life on land occurred at a much earlier stage in Earth's history than was previously believed by most scientists. It also suggests that an ozone shield and an oxygen-rich atmosphere existed on Earth 2.6 billion years ago, both necessary conditions for life on land to emerge."

The suggestion that an ozone shield existed as early as 2.6 billion years ago boosts our chances in the search for life on planets orbiting other stars. Ozone would be easily detectable by the Terrestrial Planet Finder, a planned interferometer mission in NASA's 'Origins' programme."

The microbial mats discovered by researchers are composed primarily of cyanobacteria, the principal organisms that generate oxygen from water and atmospheric carbon dioxide using sunlight.

This discovery is similar to what scientists went through with marine organisms. Once scientists thought no living organisms existed in the Earth's oceans before 500 million years ago. Then they studied the carbonaceous matter in ancient sedimentary rocks deposited in the oceans and found that organisms lived in the oceans at least 3.8 billion years ago.

A variety of geochemical and paleontological data suggests that microorganisms flourished in Earth's oceans at least 3.8 billion years ago, but researchers have been unable to agree on when microorganisms first colonised the land. The oldest undisputed remains of terrestrial organisms are currently 1.2 billion-year-old microfossils discovered in 1994 in Arizona. However, many scientists think the Earth's land surface was sterile until about 500 million years ago, when vesicular plants first appeared.

The organic matter found in South Africa occurred primarily as parallel seams in the ancient 2.6 billion-year-old soil bed. This suggests that the organic seams are remnants of biomats that developed on the soil surface and were trapped while the soil formed. The team discovered the "right" ratios of chemical elements essential for life (carbon, hydrogen, nitrogen and phosphorous) in the carbonaceous matter of the Eastern Transvaal. This provides strong evidence that the carbonaceous matter is of biological rather than abiotic origin.

Peter Skilton

Astronomy 2001's For Sale

The society has a number of Astronomy 2001's for sale at $18 to Members. Please feel free to pick one up at a general meeting. The Astronomy 2001 almanac is a great guide for both the beginner and the advanced observer.

In the Sky

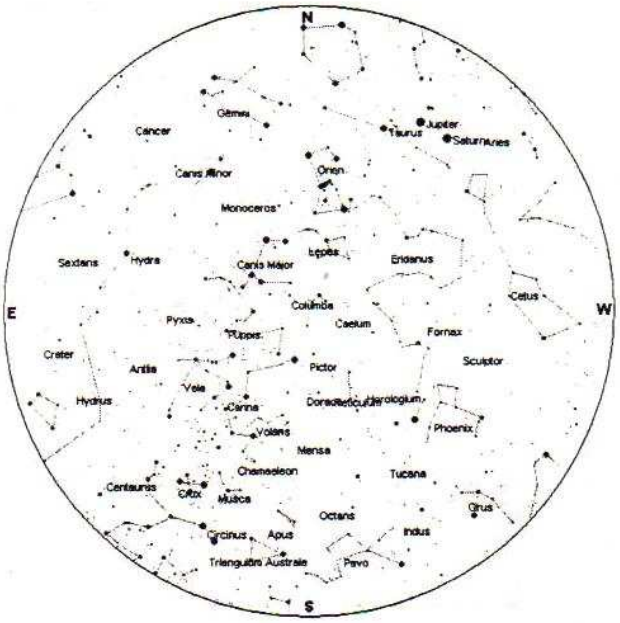


Chart Above shows the late evening sky on Jan 24.

Evening Sky

Venus continues to dominate the western sky after sunset, and reaches its greatest elongation from the sun on Jan 17. You may catch a glimpse of Mercury toward the end of Jan, low in the twilight sky, but the best evening apparition will be in September.
After Venus sets (at around 10pm toward the end of the month), Jupiter and Saturn will rule alone in the North West sky. Be sure to catch them over the next two months, as they are on the way down toward the sun, setting at around 11pm toward the end of Feb. On 2nd Feb, Saturn will be only 1 degree from the 8 Day old moon.

Orion, high in the sky, continues to remind us of summer heat and clearer skies, and leads our eye along the great band of bright summer stars.
The galaxy rich Fornax-Sculptor region is on its way down, so try for some of those multiple galaxy fields before they go….
In the south, the cross still lies low, but is on the rise during the night, and the magnificent Carina region is favourably placed for observation over the next few months.

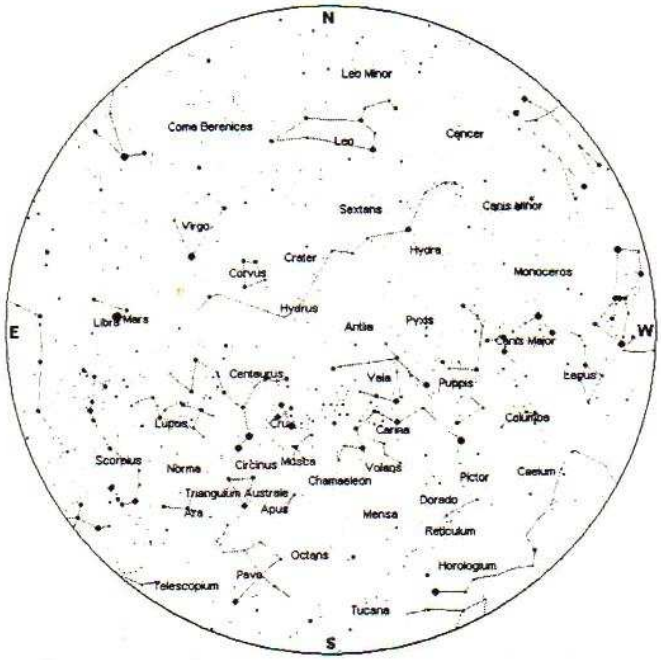


Chart above shows the morning sky around 4 am on Jan 24

Morning Sky

Mars, rising at around midnight toward the end of Jan, is the planetary offering in the Morning sky. Mars is heading toward opposition later this year and still presents a small 5 arc second target, but it might be an idea to view it now in order to compare its size later in the year.

Moving Targets

The International Space station is making passes over Melbourne in the following time windows…

- Jan 5 – 15 Mixed evening and Morning passes
- Jan 15 – 25 Evening Passes
- Feb 12 – 24 Morning Passes

Mir's Pass windows

- Jan 6 – 20 Morning Passes
- Jan 20 –24 Mixed morning and evening
- Feb 4 – 11 Evening Passes

Go to www.heavens-above.com for pass details

Ian Porter

The Yearly Calender

Shown on the next page is the ASF's yearly calendar, put together by Ian Sullivan. This should be a fantastic resource for all members.

Photos at Left - Working Bee at the ASF Briars site.
10 December 2000 - *by John Cleverdon*

Astronomical Society of Frankston — CALENDAR 2001

P is Public Holiday ● New Moon ○ Full Moon

	January	February	March	April	May	June	July	August	September	October	November	December	
1	M	P Th	Th Committee Meeting	Su	T	F Public Night	Su	W	S	M	Th ○	S ○	1
2	T	F Public Night	F Public Night	M	W	S	M	Th	Su	T ○	F Public Night	Su Working Bee	2
3	W	S	S	T	Th	Su	T	F Public Night	M ○	W	S	M	3
4	Th	Su	Su	W	F Public Night	M	W	S ○	T	Th	Su Working Bee	T	4
5	F	M	M Scorpius deadline	Th	S Scorpius deadline	T	Th	Su	W Scorpius deadline	F	M Scorpius deadline	W	5
6	S	T	T	F Public Night	Su	W ○	F	M	Th	S	T P	Th	6
7	Su	W	W	S	M ○	Th	S	T	F Public Night	Su	W	F Public Night	7
8	M	Th ○	Th	Su ○	T	F	Su	W	S	M	Th	S Xmas BBQ Members Nt	8
9	T	F	F	M	W	S	M	Th	Su Working Bee	T	F	Su	9
10	W ○	S	S ○	T	Th	Su	T	F	M	W	S Members Nt	M	10
11	Th	Su Working Bee SOLAR DAY	Su	W	F	M P	W	S	T	Th	Su	T	11
12	F	M	M P	Th	S	T	Th	Su	W	F	M	W	12
13	S	T	T	F P	Su Working Bee	W	F	M	Th	S Members Nt	T	Th	13
14	Su	W	W	S	M	Th	S	T	F VASTROC	Su	W Committee nom. close	F	14
15	M	Th	Th	Su	T	F	Su	W General Meeting	S VASTROC Members Nt	M	Th ●	S Members Nt ●	15
16	T	F	F	M P	W General Meeting	S Members Nt MARS NIGHT	M	Th	Su VASTROC	T	F	Su	16
17	W	S Members Nt	S	T	Th	Su	T	F	M ●	W General Meeting ●	S Members Nt Leonids	M	17
18	Th	Su	Su Working Bee	W	F	M	W General Meeting	S Members Nt	T	Th	Su Meteor Shower	T	18
19	F	M	M	Th	S Members Nt	T	Th	Su ●	W General Meeting	F	M Show	W	19
20	S	T	T	F	Su	W General Meeting	F	M	Th	S Members Nt	T	Th	20
21	Su	W General Meeting	W General Meeting	S	M	Th ●	S Members Nt ●	T	F	Su	W Annual Gen. Meeting	F	21
22	M	Th	Th Sth Pacific	Su	T	F	Su	W	S Members Nt	M	Th	S	22
23	T	F ●	F Star Party NSW	M	W ●	S Members Nt	M	Th Committee Meeting	Su	T	F	Su	23
24	W ●	S Members Nt	S Members Nt	T ●	Th Committee Meeting	Su	T	F	M	W	S	M	24
25	Th	Su	Su Sth Pacific ●	W P	F	M	W	S Members Nt LUNAR NIGHT	T	Th Committee Meeting	Su	T P	25
26	F P	M	M Star Party NSW ends	Th Committee Meeting	S Members Nt	T	Th Committee Meeting	Su	W	F	M	W P	26
27	S	T	T	F	Su	W	F	M	Th	S	T	Th	27
28	Su	W	W	S Members Nt	M	Th Committee Meeting	S	T	F	Su Start of DST	W	F	28
29	M		Th Committee Meeting	Su	T	F	Su	W	S	M	Th Committee Meeting	S	29
30	T		F	M	W	S	M	Th	Su	T	F	Su ○	30
31	W		S Members Nt End of DST		Th		T	F		W		M	31
	January	February	March	April	May	June	July	August	September	October	November	December	

Scorp deadl — Public Night — Working Bee — Public Night — General Meeting — SUBS DUE — Memb Nt — Public Night — Comm Mtg — Memb Nt — Public Night

Working Bee — Public Night — Working Bee — General Meeting — Memb Nt

Scorpius deadline — Public Nt — Working Bee — Members Nt

Public Night — Working Bee

Members Nt — Committee Meeting

General Meetings are held at 8 pm at the Peninsular School, Wooralla Dr, Mt Eliza - *Melway 105 F5 (drive to Senior School at rear)*
ASF Library at Peninsular School is open from 7.30 pm on General Meeting nights for borrowing by members.
Members Nights for sky viewing are at the *'The Briars'* Nepean Hwy Mt Martha - *Melway 151 E1*
and new attendees must confirm with Ian Porter on 5985 4203 (otherwise Mobile No. at right) before attending
Working Bees are held at *'The Briars'* in the afternoon, normally commencing at 12.30 pm .

State School Term Breaks

Public Nights for sky viewing are held at 'The Briars' (see left) at 8 pm all year. Booking is preferred, but not essential.
For bookings and enquiries , phone 0419 253 252

Prepared by Ian Sullivan

Mornington Peninsula Astronomical Society

Volunteers Needed for Flashline Crew: Hard Work, No Pay, Eternal Glory

The Mars Society is requesting volunteers to participate as members of the crew of the Flashline Mars Arctic Research Station during an extended simulation of human Mars exploration operations on Devon Island during the summer of 2001. It is anticipated that the field season will run from late June through late August; volunteers should state during what segments of this span they are available. Both volunteer investigators who bring a new proposed program of research compatible with the objectives of Flashline Station, and volunteers simply wishing to participate as crew members supporting ongoing investigations will be considered. Applications will be considered from anyone in good physical condition above 18 years of age without regard to race, creed, colour, gender, or nation. Scientific, engineering, practical mechanical, first aid, wilderness, and literary skills are all considered a plus.

Dedication to the cause of human Mars exploration is an absolute must, as conditions are likely to be tough and the job will be very trying. Team spirit is essential. Those selected will be required to participate in short (a few days) crew training exercises to take place in the western United States during the spring of 2001, and to act under crew discipline and strict mission protocols during the field season on Devon Island. The Mars Society will pay travel and related expenses during training and field deployment, but, aside from potential student stipends, there will be no salary.

Applications including resume, character references, a brief letter explaining why you wish to participate, and a summary of any proposed research should be sent to Mars Society, PO Box 273, Indian Hills, CO 80454 no later than January 31, 2001. Total length of applications should not exceed three pages. Please include seven copies of the entire application in addition to the original. Submitted applications will be reviewed by members of the Flashline Management Committee. Applications will NOT be accepted by email.

If you have specific questions regarding this announcement please direct them to the appropriate email address listed here;

General inquiries - volunteers@marssociety.org
Media inquiries - rzubrin@marssociety.org

EVIDENCE OF MARTIAN LAND OF LAKES DISCOVERED

In what ultimately may be their most significant discovery yet, Mars scientists say high-resolution pictures from the orbiting Mars Global Surveyor spacecraft show layers of sedimentary rock, painting a portrait of an ancient Mars that long ago may have featured numerous lakes and shallow seas.

Distinct, thick layers of rock within craters have been seen and other depressions for which a number of lines of evidence indicate that they may have formed in lakes or shallow seas. Never before has this type of irrefutable evidence that sedimentary rocks are widespread on Mars been seen. These images tell us that early Mars was very dynamic and may have been a lot more like Earth than many of us had been thinking.

Such layered rock structures where there were once lakes are common on Earth. The pancake-like layers of sediment compressed and cemented to form a rock record of the planet's history.

The regions of sedimentary layers on Mars are spread out and scattered around the planet. They are most common within impact craters of Western Arabia Terra, the inter-crater plains of northern Terra Meridiani, the chasms of the Valles Marineris, and parts of the northeastern Hellas Basin rim. The scientists compare the rock layers on Mars to features seen in the American Southwest, such as the Grand Canyon and the Painted Desert of Arizona.

The Mars images tell us that the story is actually quite complicated and yet the implications are tremendous. Mars has preserved for us, in its sedimentary rocks, a record of events unlike any that occur on the planet today.

On Earth, sedimentary rocks preserve the surface history of our planet, and within that history, the fossil record of life. It is reasonable to look for evidence of past life on Mars in these remarkably similar sedimentary layers. What is new is that Mars has shown us that there are many more places in which to look, and that these materials may date back to the earliest times of Martian history.

Many scientists had not previously advocated the theory that Mars was wet and warm in its early history. But this view of Mars is shaken when you see the nearly identically thick layers that would be almost impossible to create without water.

As an alternative to lakes, it has been suggested that a denser atmosphere on early Mars could have allowed greater amounts of windborne dust to settle out on the surface in ways that would have created the sedimentary rock.

The finding of layered sedimentary deposits is something that biologists have been hoping for. Perhaps the favourite sites for biologists to search for fossils or evidence of past life on Earth are layered lake or oceanic sediments such as in these sites.

A C R U X L U P U S E C
S R E T A R C O R O N A
C E N T A U R U S N L S
G R U S U P E L A O Y S
O C T A N S G E M I N I
V A E V I R G O A R X O
A C A N I S M A J O R P
P L I R D R A C O A M E
U Z E K Y S E I R A R I
S U N V U L P E C U L A

Constellation Wordfind – How many can you find ?

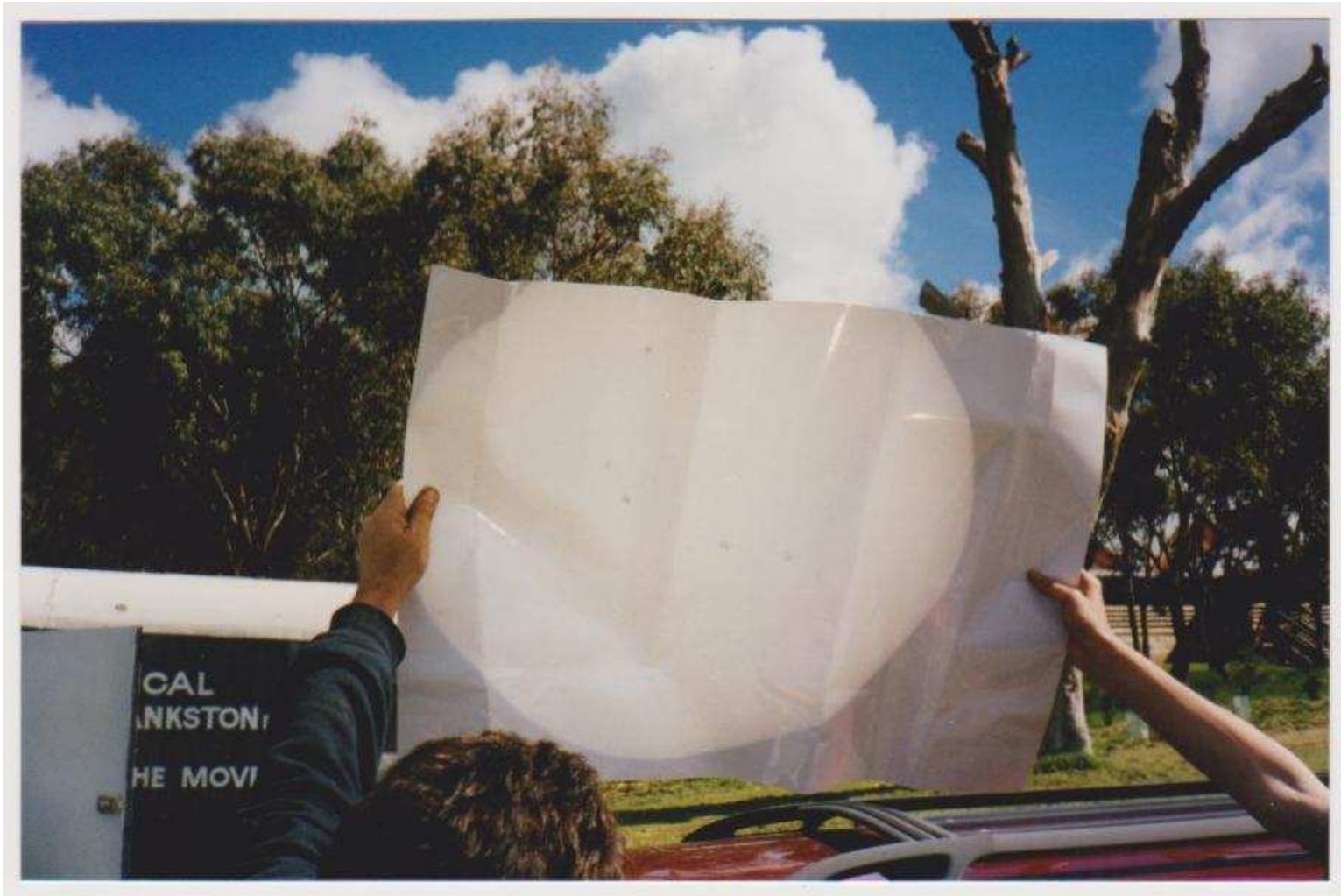
If your name and address details have changed or are incorrectly shown on this label, please send your updated details to the above PO Box number.

Kindly reproduced by the efforts of Ken Bryant, and collated/posted by Sally Zetter.

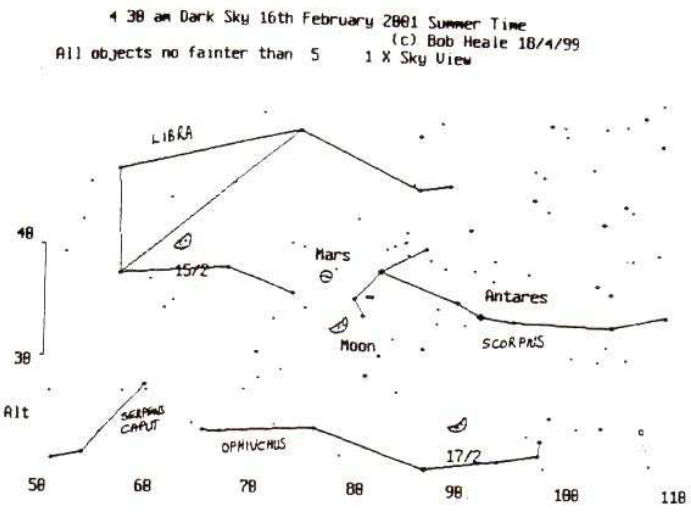
if undeliverable, please return to
Astronomical Society of Frankston Inc.,
PO Box 596, Frankston, Victoria 3199.

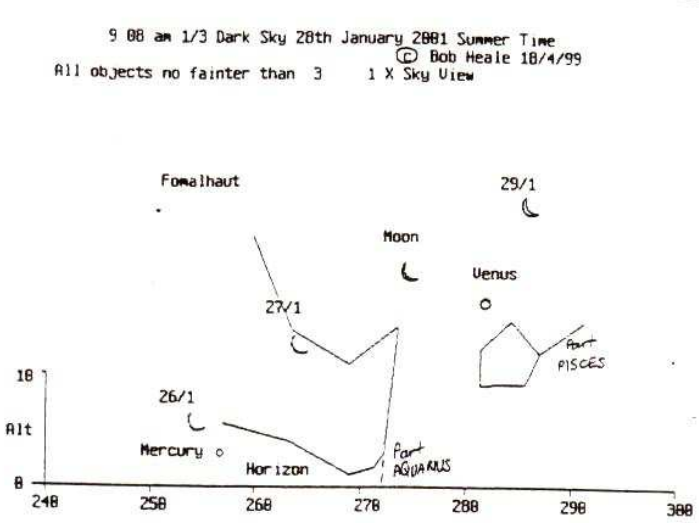
Photos below - Solar Day & Working Bee at the ASF Briars site.
by John Cleverdon - on 4th November 2000

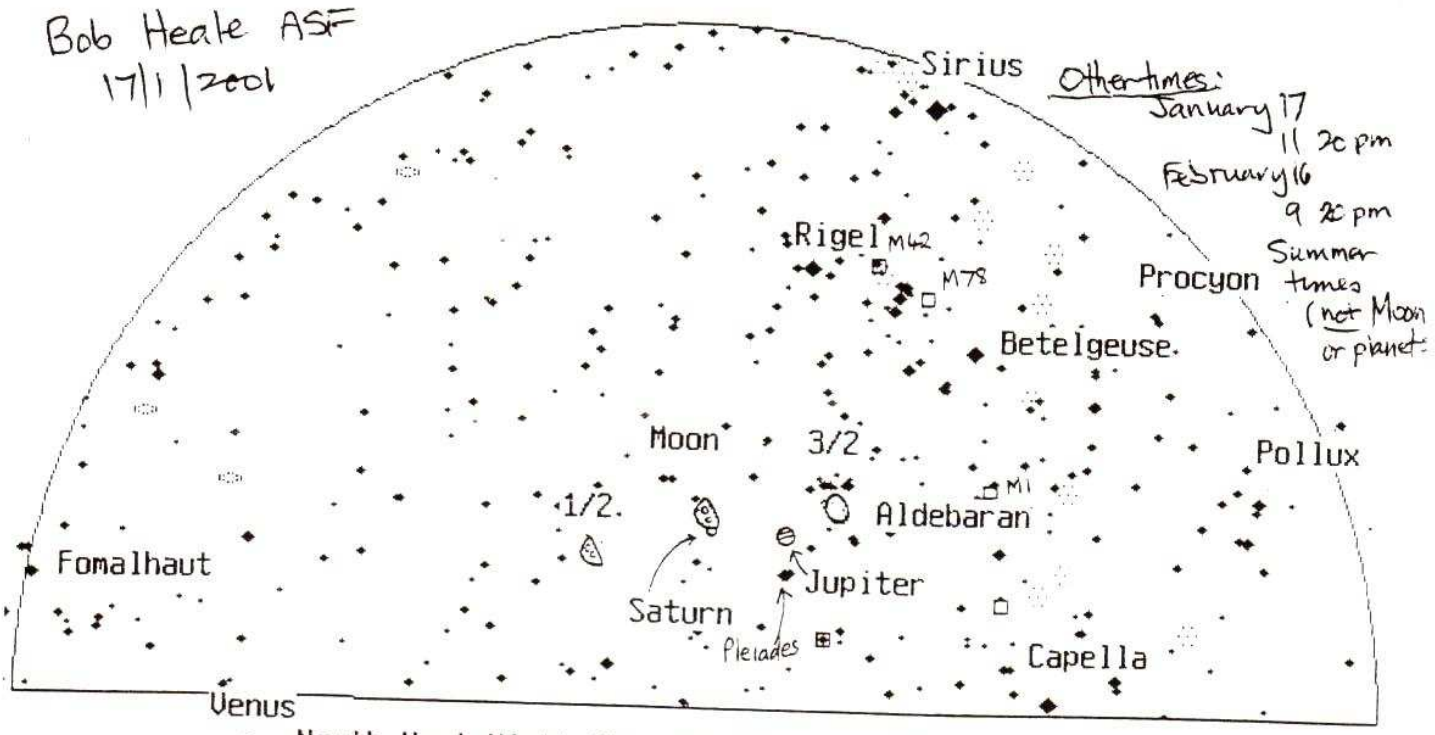
Top Photo - Sun spots projected on to white paper.

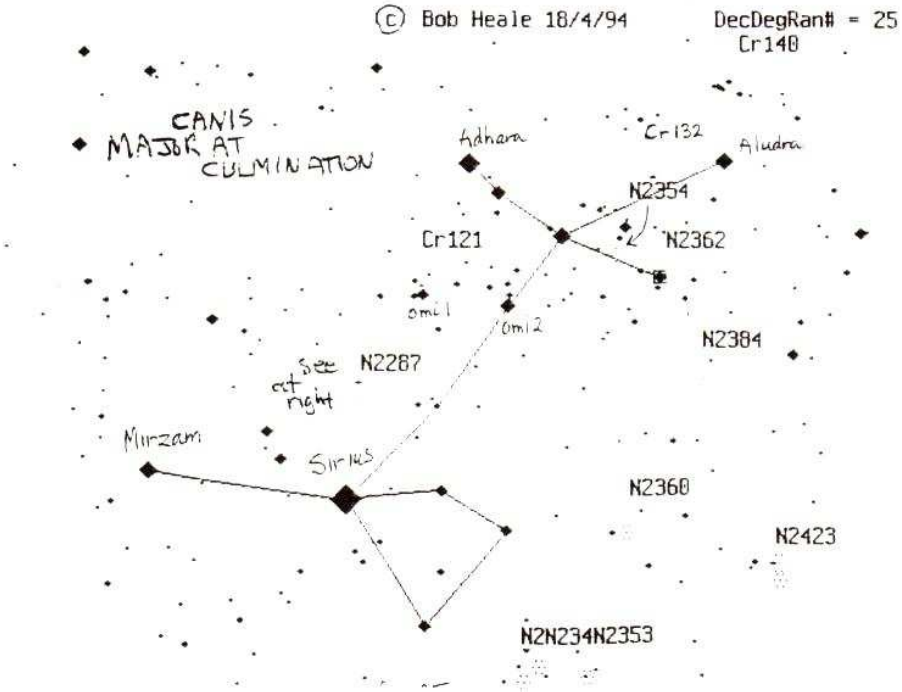


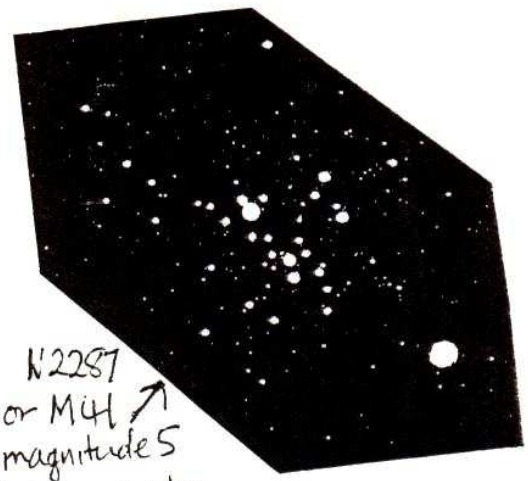
SKY FOR THE MONTH 17 JANUARY TO 20 FEBRUARY (INCLUSIVE)





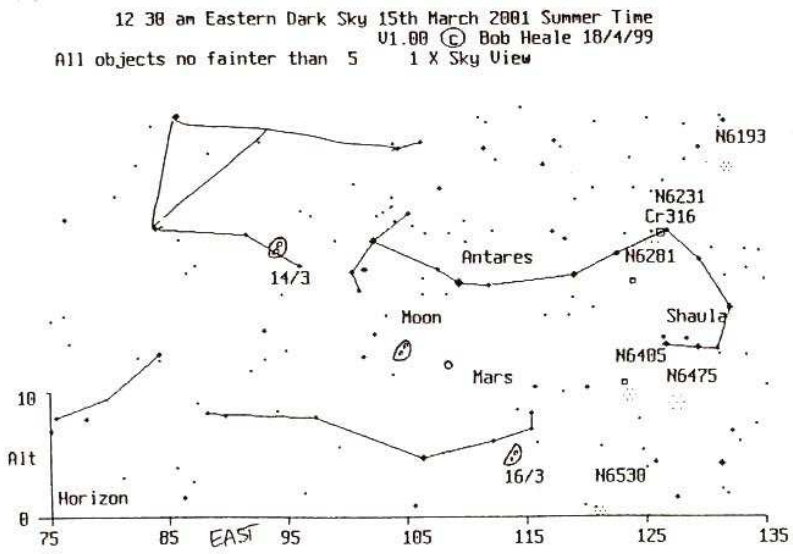


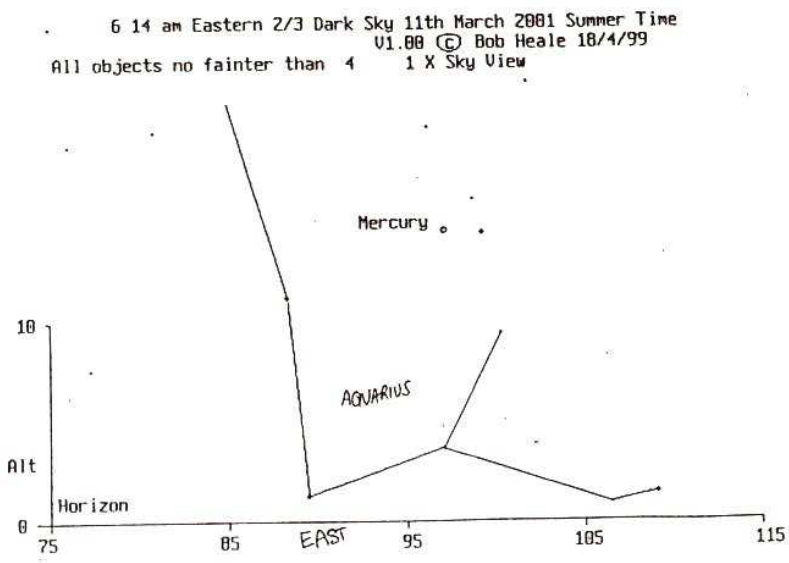


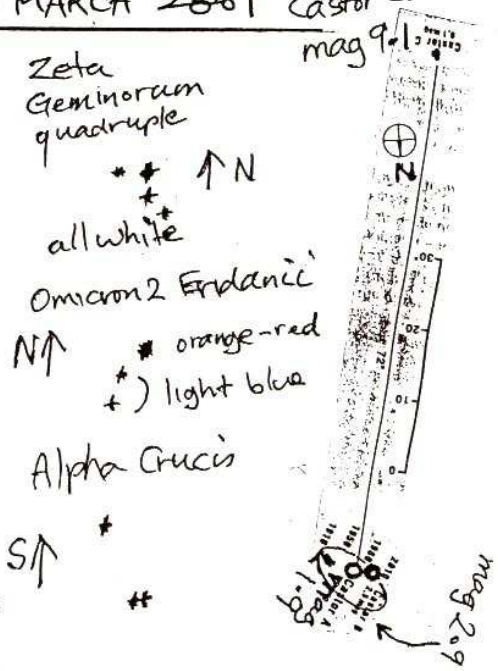


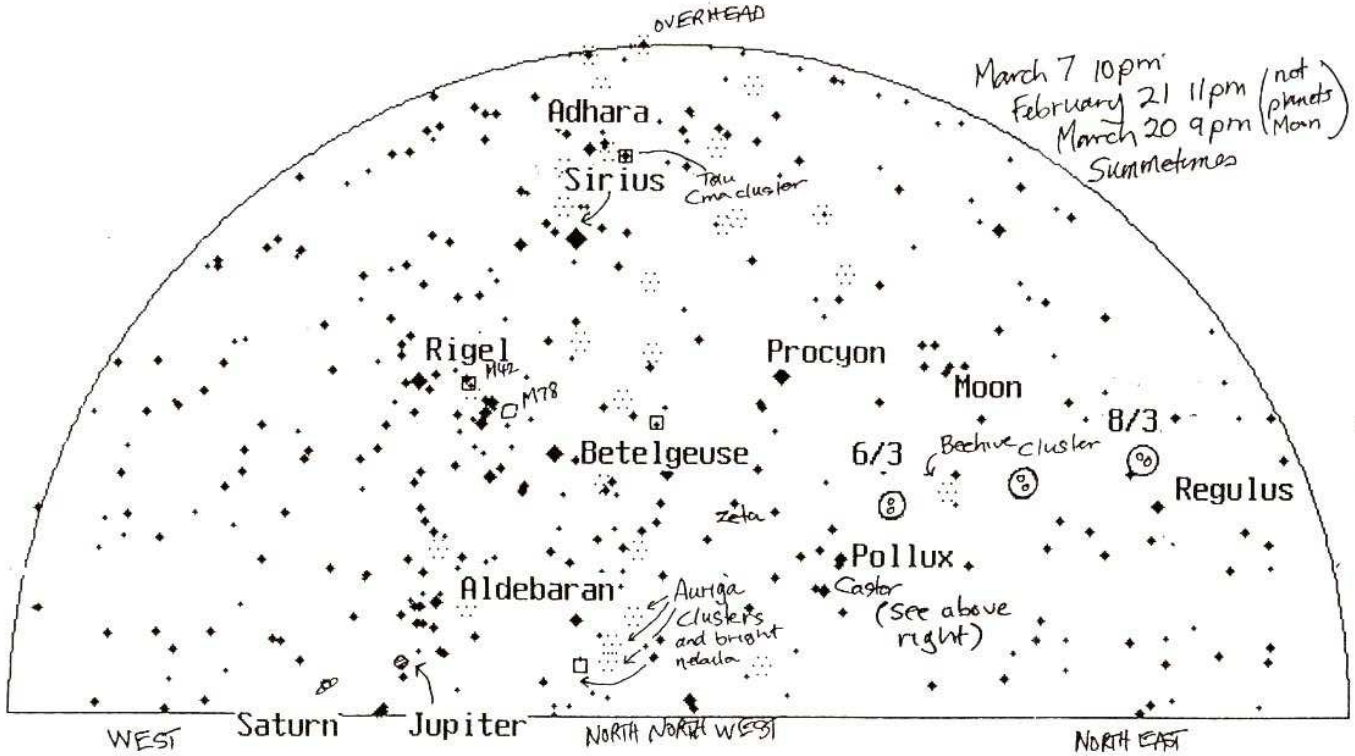
N2287 or M41
magnitude 5
40 arc minutes
diammeter 2 400 light years
distance from Earth
20 stars visible in any telescope

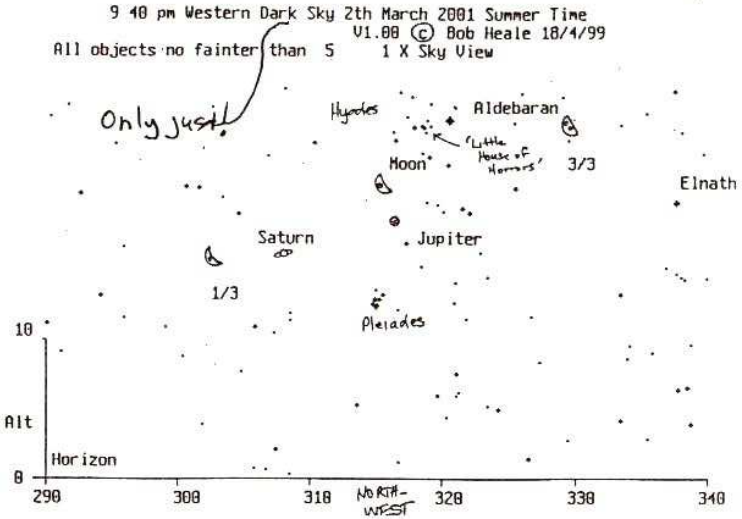
SKY FOR THE MONTH WEDNESDAY 21 FEBRUARY — TUESDAY 20 MARCH 2001











Bob Heale ASF
20/2/01

Mornington Peninsula Astronomical Society