



SCORPIUS

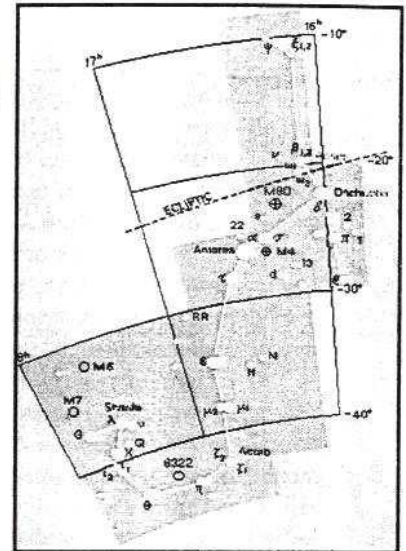
The Journal of the
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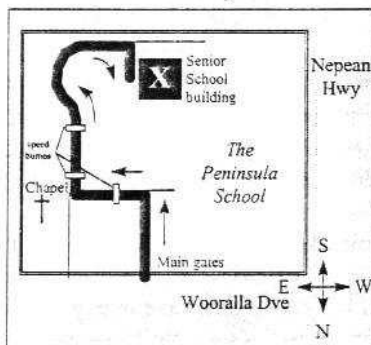
Volume X, No. 5 (Sep 2001)

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. Regulars 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 theatre, 8pm on 3rd Wednesday of each month except December.
Phone: 0419 253 252 **Mail:** P.O. Box 596, Frankston 3199, Victoria, Australia
Internet: <http://www.asfnet.20m.com>
E-mail: 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) 9776 5898
Vice President & Editor	
Richard Pollard	0419 100 802
Treasurer	
Neil Hewson	(03) 5975 7710
Secretary	
Sally Zetter	(03) 5976 2679
Committee of Management:	
John Cleverdon, Marty Rudd, Peter Lowe, Russell Thompson, Ian Sullivan	

All calls after hours and pre-8:30pm please.

FUTURE EVENTS

General Meetings:

September 19th

Session 1: Peter Lowe on "Cosmology in the 20th Century"
Session 2: Video on "An Astronauts' View of Earth"
Session 3: Informal Interaction

October 17th

Session 1: Opportunity still open – see Peter Skilton if interested.
Session 2: Video on "Tunguska: The Day the Earth was Hit"
Session 3: Informal Interaction

November 21st (Annual General Meeting).

Note: A form is included on the back page of this edition for nominating for all committee positions which become vacant at this meeting.

Session 1: John Goodall on "Astrophotography Basics".
Session 2: Video on "The Christmas Star"
Session 3: Informal Interaction

Viewing Nights:

Members Only:

NOTE: Members nights are also now held on Fridays!

Sep 14th/15th, Oct 12th/13th and Oct 19th/20th all at The Briars, Nepean Hwy, Mt. Martha.

New attendees must always confirm with David Girling on 59762806 before attending. Remember for security reasons you can only attend on planned Members' Nights, unless by prior arrangement with David who will liaise with The Briars accordingly. Last person out must switch on the shed security light.

Working Bees: Sep 9th and Oct 7th at The Briars site, starting at 11am, with bbq food provided. Strategy discussions will follow after these for those interested in participating.

Public, School & Community Groups Viewing/slide nights:

If you can assist, please contact the Secretary. All are at 8pm.

Nov 14th Resurrection Primary, at the Briars Ed Centre.

Dec 10th Derinya Primary, at the Briars Educ'n Centre.

Dec 12th Derinya Primary, at the Briars Educ'n Centre.

- The once-a-month basic public viewing nights at *The Briars* will continue on the first Friday of each month. The next nights are Sep 7th and Oct 5th, all at 8pm. Assistants are required. New members are welcome to watch and participate if desired.

Social Events

Special Events: Planetarium

The Society is going to the Planetarium on Thursday evening September 13th, and all stops have been pulled out with three 12-seater mini buses being hired for the evening for those unable to make their own way there for whatever reason, for example lack of transport. The bus may even come to your home front door if necessary – now that's service with a smile.

Tanya Hill will be giving us a special behind-the-scenes preview of the capabilities of the equipment beforehand from about 7:15pm before going into the normal public show of *Escape from Andraxus*. The booking office reportedly told our Secretary that the show isn't suitable for young children. Well, the promise of what material it therefore contains seems to have spurred on a massive interest in members, families and friends attending, with nearly 40 already paid, and increasing by the day!

If you are interested in attending, payment is required now. If you later decide to cancel, you will need to find a replacement yourself as the booking is not refundable. If you decide to come on the bus (assuming there are sufficient seats left by the time you read this) the cost of travel and admission is \$17, and if you decide to make your own way there, the cost is \$12. If you are new to the Society, why not take this opportunity to meet others socially. In fact we have even already invited neighbouring astronomical societies along as well as a means of developing inter-society exchanges.

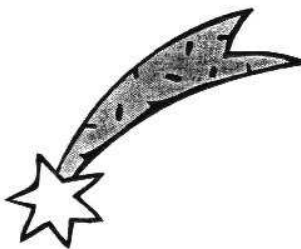
If you are interested, please contact Sally Zetter who has all unissued tickets, but don't delay as the Planetarium can only seat about 130 people, and will be open to others aside from our Society, so you risk missing out.

VASTROC

The first communication about VASTROC for 2001 has been issued. The Victorian Astronomy Convention is a get together once every second year of amateur astronomers, primarily from around Victoria, for a weekend of meeting each other and attending astronomy talks on diverse topics. The ASF hosted this event the last two times in Mt.Eliza, and the ASV has nominated to host it this time up at Heathcote in central Victoria (about 3 hours' drive from the Mornington Peninsula). This VASTROC will be held on the weekend of October 13 and 14 at The Bank Conference Centre in Heathcote township. It is planned on the Saturday evening to have a spit roast followed by an observing evening at the ASV's site north of Heathcote. Accommodation is available at various small motels or by free camping in the grounds of the observing site. This first communication also serves as a call for any papers in any subject pertaining to astronomy. As per usual, no conference proceedings will be produced. Cost is \$40 for two days, plus \$15 for the barbecue, or \$20 for a single day. Further enquiries can be directed to any ASF committee member, or directly to Barry Adcock on 9459 4015 or via email at adcockl@hotmail.net.au. The number of registrants is limited to approximately 60 due to the size constraints of the venue.

Leonids 2001

Plans are well underway for this year's trip to Alice Springs to observe the Leonids meteor shower in mid November. The ASF is to be well represented as part of the combined ASF/ASV Meteor Section. David Girling, Marty Rudd, Richard Pollard and Phil Snelling will all be heading to Alice to observe and monitor the Leonids, as well as visit such significant sites as Henbury, Gosse Bluff and Box Hole. The January 2002 Scorpius will carry a full report.



YOUR SOCIETY

NOTIFICATION OF SPECIAL AGM BUSINESS

In accordance with our constitution, please be advised that the following minor constitution changes are proposed by the Committee to be voted upon at the AGM. The changes relate to:

(a) Vilification. No member of the Association may vilify any other member. If, in the opinion of the committee, a member has vilified another member then the committee shall take action under paragraph 7(1) of the rules of the constitution.

(b) Raising the maximum level of monetary fine that can be imposed to \$300 to bring it into line with that given in the standard model constitution issued by the Office of Fair Trading.

All proposed changes will be available for inspection prior to the AGM, and may be obtained from the Secretary beforehand if requested. A nomination form for Committee positions is included on the last page of this edition of *Scorpius*.

YAHOO GROUP UP AND RUNNING

<http://groups.yahoo.com/group/E-Scorpius>

The Society's new e-mail group, E-Scorpius, is up and running well after the closure of the Listbot service. As mentioned previously, there are many additional features available from the above site: a 'files' page for photos, documents and small programs, a calendar, even a chat module. You will need a Yahoo ID to access the features of the site: if you have one, you can use that, if not, it's a simple process to sign up. I hope you find this service useful and make the most of it.

Richard Pollard (Group Moderator)

LIBRARY MATTERS

The library has acquired the following new arrivals:

Video of *Longitude* – the excellent factual film based on the world best seller by Dava Sobel, detailing the lifelong pursuit of a reliable way of determining longitude at sea during the 18th century.

In Search of Ancient Astronomies, by E.C.Krupp. This hard back book covers in some detail the studies that have occurred on various ancient astronomy sites from Stonehenge in

Britain, Carnac in France, to famous monuments and ruins in Egypt and the Yucatan.

The Search for Life on Mars, by Malcolm Walter. This recent book covers the speculation and the science of the search for life on Mars, including the more recent supposed meteorite finds of microfossils. The book is aimed at the lay person and is written by someone who has worked with NASA scientists for over a decade helping to determine where to look for life on Mars. The story is compelling, and provides an insight into the frustrating and sometimes acrimonious world of palaeobiology and its search for extraterrestrial life forms.

The Star of Bethlehem: An Astronomer's View, by Mark Kidger. This hard back book of interest to the general reader, outlines the innumerable theories that have developed over the years about what the star of Bethlehem may have been – if anything. The author's study is extremely thorough covering astronomical and biblical sources, and is very thought-provoking. He is a research astronomer in Spain and his knowledge of the subject is evident throughout.

The Northern Lights, by Lucy Jago. This hard back book tells the true story of how one man sacrificed love, happiness and eventually even his sanity and life to unlock the secrets of the enigmatic Aurora. Misunderstood during his lifetime, his ideas were in fact scientifically brilliant and prophetic and well ahead of their time.

NEW MEMBERS

Welcome to the following new Society member(s):

Roger Chandler
Ronald Ritchie

The current number of members is 162.

RECENT MEETINGS

July's meeting saw 42 brave the rain and was chaired by the President. As

for the previous month, this month started with a minute's silence sadly to mark the passing of another member, Derek Rowland. The previous month had been quite busy in terms of school and public night sky viewing evenings, and on social events. Peter Skilton reported on amateur observations from overseas in a 6 inch telescope visually, and a 12 inch Meade via video, that had reported star-like flares bursting from Mars near its equator. The astronomers had predicted the event in advance based on a hypothesis as to its cause. Of course, the chances of anything coming from Mars are a million to one they said, yet still they come. Rather than being of extraterrestrial origin, the phenomenon is believed to be due to reflection of sunlight by water ice crystals in the atmosphere and surface frosts under favourable circumstances. Advance notice of the next VASTROC, this time being hosted by the ASV, was given. The President called for all members present to consider where they wanted the society to be in the year 2020, as the society had embarked on a series of meetings to thrash out exactly this, and the strategy of how we might get there. All interested members are invited to attend these meetings and provide their input. They will be held after each working bee at The Briars observatory site over the next 3-4 months. The next will be on Sunday, August 12 at 1pm. Bob Heale started the sessions off with *Sky for the Month*, including an interesting outline of equilateral triangle arrangements of stars that can be readily observed in the sky. This was followed by Bruce Tregaskis speaking on the recent solar eclipse with material gleaned from the internet. Roger Giller then reported no

auroral activity in our region for the month, and so showed the sunspot count progression to date, suggesting that solar maximum was now past. David Girling was unable to show

further occultation videos due to VCR difficulties. Ian Sullivan outlined the June 21 total solar eclipse where he had travelled to Zambia to record it, and presented several stunning slides of the clearly red prominences he had photographed during totality. Ian Porter then reported in the What Goes Up segment on recent rocket launches, and noted that the Russians are now

seriously keen to send tourists into space as a money making venture to kick-start their own Mars exploration programme. After the raffle was drawn, the group broke for tea, then reconvened into three parallel sessions. One group continued on with informal discussions, while the second watched the videos on Earth's Interior (and explaining how we know how it is in layers) and Cycles of the Sky (explaining about eclipses and tides). The main session was given by past President, Peter Norman, who spoke on the very in-depth subject of stellar nucleosynthesis, and accompanied his description of how all the elements came to be in our universe with models he has made over the years. These models had consumed a serious number of ping pong balls in their manufacture, and had appeared in various talks over the years, including at Lucas Heights itself. The audience, after being thoroughly informed of how all their atoms came to be there, gave their appreciation in the usual way. Meeting closed at 10:30pm.

August's meeting was chaired by the President and saw 45 in attendance on a mild but overcast evening. Although a number of regular presenters were away, the evening was full of surprises. Peter Skilton reported on a collaborative grazing lunar occultation field trip to Sunbury the previous Sunday, that successfully recorded multiple certain disappearances and reappearances of a magnitude 5 star across the dark limb of the Moon by he and Jim Blanksby. Dave Girling then followed by presenting some fantastic observing log book drawings that a highly promising young 13 year old visitor, Sebastian from Berwick, had brought along and were obtained with his 4.5 inch reflector. Sebastian has aspirations of becoming an astronomer and will undoubtedly achieve this if he keeps it up. Bruce Tregaskis then followed with an outline of the solar neutrino problem, then Roger Giller reported on auroral activity for the month. Member Greg Walton's auroral snaps from The Briars have been published in the latest *Sky and Space* magazine. Roger then continued on with *Sky for the Night* and, using SkyGlobe, explained the daily motion of the stars and planets across the sky using time-lapse functionality. Marty Rudd then reported on his recent expedition to Heathcote to observe the delta Aquarids and delta Capricornids



meteor showers. A tape recording he made of a brilliant magnitude -6 fireball streaking through the night gave no doubt as to his level of ecstasy at the moment, with the positively enraptured screams into his cassette recorder! Several members were heard to mutter how they'd like to know how they too could share a similarly intense observing experience. Ian Sullivan then capped off the information sessions with more on Mars, as it is still a prominent evening object. Barry Adcock gave a rundown of the forthcoming VASTROC and handed out registration forms. After the tea break, the sessions split into two streams. In the library room was shown a video on the Structure of the Cosmos, where Andrew Thornton continued with his move towards getting an electronic catalogue together. Eventually we may then have the library online and perhaps books available for borrowing by post. In the main auditorium, Dave Girling aired a splendid video he and Marty Rudd had assembled of his video astronomy set up, various inexpensive CCD cameras and monitors, and the results from his learning experiences with these readily available instruments. Projected onto the theatre's front wall, the results were impressive and inspiring. Meeting closed at 10:30pm.

The public night on July 6 saw 20 in attendance on a totally overcast evening. The talk was given by Peter Skilton and in the field offering glimpses of Mars and the Moon through cloud were David Huby, Bruce Tregaskis, Bob Heale, John Cleverdon, Jim Imrie and Don Leggett.

The working bee/barbeque at The Briars site on July 8 was very well attended under gale force conditions, and saw most of the mowing completed and the plants restaked and bagged. Thanks to the workers who signed the Visitors Book: David Girling and children, Jeremy Scott and daughter Lucy, Greg Walton, Don Leggett, Jane McConnell, Sally Zetter, Heinz Rummel, John Cleverdon, Bob Heale, Peter Skilton. Following the morning's toil, those who could stay, and late-comers Marty Rudd and Ian Sullivan, participated in a strategy/brainstorming meeting in the observatory shed. The aim was to identify where the participants believed the society should ideally be in the year 2020, and suggest what may need to happen to get us

there from our current position. The ideas raised and discussed in the 3 hour meeting will be further discussed following each of the working bees this year, and any interested member who wishes to participate in the process is cordially invited along to the working bee.

On the evening of August 3, the public viewing night at The Briars was held and 80 were in attendance to hear Richard Pollard and Peter Skilton speak about the solar system. The outside benches were brought inside to cater for the large turnout, and this worked well. This was an amazing turn out as the evening promised to remain totally under cloud cover, as it had been all day. Some of the visitors had even travelled from the other side of Port Phillip Bay as they had heard about us. Over half the attendees were children, and some were very keen astronomers indeed, one even brought along some first class sketches he had made through his own small instrument. Following supper, the skies miraculously cleared, enabling the several telescopes present to show the night sky to the visitors. This was overall an excellent and enjoyable viewing evening. Thanks to David Girling and Don Leggett for table duties and supper, and in the field were Mark Hillen, David Huby, John and



Roger Cleverdon, Ken Bryant and Phil Snelling.

The working bee/barbeque at The Briars site on a fine

August 12 was well attended with mowing and weed spraying the order of the day. Thanks to the workers who signed the Visitors Book: David Girling and kids, Jeremy Scott and daughter, Don Leggett, Jane McConnell, Sally & Jason Zetter, John Cleverdon, Peter Skilton, Marty Rudd and Darren Baker. Following this, most were able to stay and contribute to the strategy/brainstorming chat which again attempted to look at the year 2020, incorporating material fed in by Peter Lowe in absentia, and also looked at what could more immediately be done with the development of the observatory.

Schools and Community Groups:

On August 3, Peter Skilton visited Westernport Christian School during the afternoon to speak about space exploration and the planets. The group of 40 grade 3 pupils were very knowledgeable and enjoyed seeing meteorites, fossils and model rockets up close.

Black Rock Primary school was treated to a viewing evening at The Briars Education Centre on August 28. Peter Skilton gave a talk to 70 grade 5 pupils and teachers in a cosily warm room, and encountered the only person so far in any school or public evening (about 20,000 so far) to correctly identify the number of moons around Saturn in one of the slides. For this outstanding piece of lateral thinking, the quiet young lad received a small piece of a Henbury meteorite, a hand shake, and our hearty accolades. Two of the teachers expressed their genuine surprise as the person was not thought to be a star pupil - just goes to show you cannot put pre-conceived labels on kids. Unfortunately, conditions during the evening were almost totally overcast, allowing glimpses of the lunar craters and mountains only. There was some concern over the open cable trenches on site, and one member and some teachers were kept busy marshalling errant pupils away from them. Thanks in the field to David Huby, Ken Bryant, John and Roger Cleverdon and Russell Thompson, and to Sally and Jason Zetter for helping set up the audiovisuals.

Croydon Hills Primary was visited on August 29 at Camp Manyung in Mornington, with the presentation being given by Peter Skilton to 92 camp attendees, tired from a long day, who then moved up to the oval to view under clear, moonlit conditions through the unexpectedly large number of telescopes present. The evening finished early for the appreciative kids. Thanks in the field to David Girling, Neil Hewson, Ken Bryant, Roger Giller, Greg Walton, John and Roger Cleverdon, Ian Sullivan and Jakob B.

OBSERVATIONS:

The Southern Australia Telephone Aurora Network swung into action on the night of Saturday August 18, when visual reports were received from Frankston of a possibly unusual pinkish glow in the south, but with no structure

visible. Although unconfirmed, the timing seemed to agree with the fact that a massive solar filament collapsed on the preceding Wednesday, and hurled a full halo coronal mass ejection away from the Sun and into space towards the Earth. When it impacted Earth's magnetosphere, auroral displays were forecasted, particularly at higher latitudes. However, no confirmation was received elsewhere across the State, with the impact anticipated more for Saturday morning instead, suggesting it was a false alarm – but certainly worth looking for.

Remember, the Aurora Network is a free alert service operated by your Society and is open to anyone in the astronomical community (regardless of affiliation) who wishes to observe this rare phenomenon at our latitude, and who agrees to following the procedure of contacting the next person on the list immediately before rushing outside to observe the event themselves. The key to the success of an alert service is rapid notification of as many geographically dispersed people as possible in order to confirm any sightings, and increase the chances of photography of the event. If you are interested in being included on the growing alert list, please contact the coordinator, Roger Giller, on 9702 2685 after hours. Remember, if you have a mobile phone, then of course you have the option of switching it off when you don't want to be disturbed, even for a splendidly radiant sky full of dancing colours.

Recently, Bob Evans (Hazelbrook, NSW) discovered a supernova in NGC 1365, the well known Barred Spiral Galaxy in Fornax (his second discovery in this galaxy) (the Galaxy is rising around 9pm, transits the meridian approx. 5am). The SN (2001du) is 90"W, 10"S of the nucleus (20"W of a foreground 15.5 mag. star) and at the time of discovery was reported as magn. 14. Gordon Garradd has indicated that the SN was not visible (down to mag. 18.5) on an image taken on Aug 15.76 and it is on the western end of the Galaxy's bar and is superimposed on a HII region. The UNSW Patrol Camera had a pre-discovery image on Aug 23.81 at Mag 14.8. Congratulations to Bob and it is great to see so many Australian observers involved.

Nova Sagittarii 2001 No 2. Alfredo J.S. Pereira, Portugal, has discovered an apparent nova on Aug. 26.9 UT during a regular patrol with 14X100 binoculars at mag. 7.6. The position is RA = 18h24m46s.04, Decl. = -30o00'41".1 (equinox 2000.0) This position puts the object inside the 'teapot' approx. 50' E (slightly south) of Delta Sgr and 25' NE of the 8th mag. globular cluster NGC 6624.

JUST FOR STARTERS

PRODUCT REVIEWS: BAADER ASTROSOLAR FILTER

According to Sky and Telescope's review of this solar filter, it was the cheapest filter of all those available, and it blew the competition totally away. It was the absolute best. So I had to buy it, since my Thousand Oaks filter was now third best by the S&T review.

I bought an A4 sheet of the filter material for \$90 from Claude at the Astronomy and Electronics Centre in South Australia. It arrived with a note from Astrophysics (the US dealers) saying how they had never recommended any of the other solar filters, because they weren't good enough for their fine refractors.

I made the filter cell in accordance with the instructions, but attached the filter using gutta tape instead of glue. The result wasn't as good looking as it could have been using the glue, but I am sure the filter will never fall off using my method.

The filter cell was for my 80mm f6.25 refractor with ED glass (It's not a top quality refractor, but it's better than your standard achromat). I looked at the sun using a power of 130X, alternating between the white image in the Baader and the yellow image in the Thousand Oaks filters.

There were plenty of sunspots and facula to check out but, try as I might, I couldn't get the Baader filter to show more than the Thousand Oaks filter. In fact, because of chromatic aberration in my refractor, the image from the Thousand Oaks filter was the better one. When I added a Number 12 Yellow filter to my eyepiece, the image in the Baader filter was indistinguishable from that in my Thousand Oaks filter.

In his review in Astronomy, Phil



Harrington suggests having a Thousand Oaks type filter if you are showing the sun to the general public or to schools, as they expect to see a yellow sun. He is correct in his assertion, but a No12 Yellow eyepiece filter used with the Baader Filter, achieves the same result. In conclusion, the Baader filter may well be amazing in reflectors and apochromatic refractors. However, in an achromatic refractor, it's performance only equals that of a Thousand Oaks filter, if a yellow eyepiece filter is used.

Apart from this, the filter truly is inexpensive and worth getting. This is because for my \$90 I had enough material to make filters for my telescope and for a number of pairs of my binoculars (binocular solar filters used to cost around US\$70 for one pair alone!)

There is now no excuse for people not to have a solar filter for their instruments, be they telescopes or binoculars. You may find it convenient to purchase an A4 sheet between several of you, and share the cost.

Renato Alessio

IN THE NEWS

MARTIAN FLARES SIGHTED

In the May 2001 issue of SKY & TELESCOPE, Thomas Dobbins and William Sheehan discussed rare historical observations of bright, star-like flares from certain regions on the planet Mars. They suggested that the brightenings might be caused by specular reflections of sunlight off water-ice crystals in surface frosts or atmospheric clouds, specifically at times when the sub-Sun and sub-Earth points were nearly coincident and close to the planet's central meridian (the imaginary line running down the centre of the visible disk from pole to pole). Based on their analysis, Dobbins and Sheehan predicted that flares like those last reported in 1958 might erupt this week in Edom Promontorium, near the Martian equator at longitude 345 deg. They were right. Dobbins organised an expedition to the Florida Keys, where Mars would

climb high in the south under exceptionally steady skies. Team members from SKY & TELESCOPE and the Association of Lunar and Planetary Observers (ALPO) scrutinised the planet using a variety of telescopes nightly beginning June 5th. No flares were seen for the first two nights. But on June 7th, beginning around 06:35 Universal Time (2:35 am Eastern daylight time), about 85 minutes before Edom crossed the central meridian, Dobbins and his colleagues observed a series of brightenings. Each lasted 3 to 5 seconds; they occurred once or twice a minute over the next hour and a half, until clouds ended the observations. The flares were seen visually at 300x to 366x through two 6-inch (15-centimetre) Newtonian reflectors and were recorded on videotape at 1,400x through a Meade 12-inch (30-cm) Schmidt-Cassegrain telescope. Visually, the flares seemed to cut the dark linear feature Sinus Sabaeus nearly in two. More brightenings of Edom were observed on June 8th; these were as bright as the ones the night before but not as frequent.

NASA CELEBRATES 25th ANNIVERSARY OF MARS LANDING

Twenty-five years ago, on July 20, 1976, NASA's Viking 1 lander soft-landed on the surface of Mars, becoming the first successful mission to land on the Red Planet, as well as the first successful American landing on another planet.

With a second lander later joining the first on the surface and with two orbiters circling the planet, the Viking project changed our understanding of that alien world. Its treasure trove of images and data covering the entire Martian globe remains a valuable scientific resource for the study of Mars.

The Viking 1 lander operated on the Plain of Chryse (Chryse Planitia) until November 1982. The Viking 2 lander set down on the Plain of Utopia (Utopia Planitia) on Sept. 3, 1976, and operated until April 1980. The two landers took 4,500 unprecedented images of the surrounding surface and more than three million weather-related measurements, while the two orbiters took 52,000 images representing 97 percent of the Martian globe. Viking will probably be most remembered for its search for life on

Mars. Each lander contained a suite of biology instruments designed to detect evidence of life in the Martian soil. Scientists concluded that the Viking experiments found no evidence of life at either landing site, but didn't rule out the possibility that life may have existed in the past or may still exist in other, more hospitable, places.

"The Viking landing sites are extremely dry desert environments where it would be unlikely to find present-day biological activity on the surface," said Dr. Jim Garvin, Mars Programme Scientist at NASA Headquarters, Washington, DC. "Other sites on Mars, such as nearer the polar caps or other places where liquid water may be found, are far more likely places to look for signs of present or past life. Our long-term plans call for missions to find liquid water on or under the surface, which will be the best places to begin a search for signs of life." Since Viking, NASA's missions to Mars have included the ill-fated Mars Observer, the successful Mars Pathfinder lander and Sojourner rover, the prolific Mars Global Surveyor (still operating in orbit around Mars), and the Mars Climate Orbiter and Mars Polar Lander, both of which failed as they neared Mars. The 2001 Mars Odyssey explorer is due to arrive in orbit on Oct 23. In 2003, NASA plans to launch twin geology-laboratory rovers to the surface, each the size of a desk and capable of travelling up to 110 yards a day from their landing site. Other missions, including landers and orbiting missions, will follow every 26 months.

ASTRONOMERS FIND JUPITER-SIZED PLANET ORBITING STAR IN URSA MAJOR

A team of astronomers has found a Jupiter-sized planet orbiting a faint nearby star similar to our Sun, raising intriguing prospects of finding a solar system like our own.

The planet is the second found orbiting the star 47 Ursae Majoris in the Big Dipper, also known as Ursa Major or the Big Bear. The new planet is at least three-fourths the mass of Jupiter and orbits the star at a distance that, in our Solar System, would place it beyond Mars

but within the orbit of Jupiter.

"Astronomers have detected evidence of more than 70 extrasolar planets," said Morris Aizenman, a senior science advisor at the National Science Foundation. "Each discovery brings us closer to determining whether other planetary systems have features like those of our own."

"For the first time we have detected two planets in nearly circular orbits around the same star," said team member Debra Fischer of the University of California at Berkeley. "Most of the 70 planets people have found to date are in bizarre solar systems, with short periods and eccentric orbits close to the star. As our sensitivity improves we are finally seeing planets with longer orbital periods, planetary systems that look more like our Solar System."

The planet-search team, which is supported by NASA and the National Science Foundation, has been instrumental in finding a majority of the planets outside our Solar System (also called extrasolar planets). Besides Fischer, the team includes Geoffrey Marcy, also of Berkeley, Paul Butler of the Carnegie Institution of Washington, Steve Vogt of the University of California at Santa Cruz and Gregory Laughlin of NASA's Ames Research Centre. Their report on the new planet has been submitted to the *Astrophysical Journal*.

A few years ago, Marcy and Butler discovered a planet more than twice the mass of Jupiter in a circular orbit around the same star. The star is one of 100 that the scientists have targeted since 1987 in their search for evidence of extrasolar planets. Using telescopes at the University of California's Lick Observatory, they measure changes in the characteristics of light emitted by the stars. Those changes, they believe, signal the presence of a planet periodically pulling the star toward or away from Earth.

The star is a yellow star similar to the sun, probably about seven billion years old and located about 51 light-years from Earth. "Every new planetary system reveals some new quirk that we didn't expect. We've found planets in small orbits and wacky eccentric orbits," said Marcy. "With 47 Ursae



Majoris, it's heart-warming to find a planetary system that finally reminds us of our solar system."

KUIPER OBJECT DETHRONES CERES

When Robert L. Millis (Lowell Observatory) and his Deep Ecliptic Survey team recorded a distant, 20th-magnitude body in the head of Scorpius last May, they realised that it was circling the Sun beyond Neptune among a swarm of similar bodies collectively called the Kuiper Belt. They also suspected that their discovery, designated 2001 KX76, might rival 1 Ceres for the title of largest asteroid. But at the time, the new object's orbit was too uncertain to know its precise distance from Earth. Lacking that, the team could only guesstimate a size based on its apparent brightness. Now a fresh round of observations has allowed European astronomers to pin down the orbit and, in turn, the object's diameter. Team leader Gerhard Hahn (German Aerospace Centre) believes that 2001 KX76 is at least 1,200 km across, assuming that its surface has an albedo (reflectivity) of 7 percent -- and 1,400 is not out of the question. Determining the size more accurately will have to await measurements at far-infrared wavelengths, which have not yet been made. Pinning down the orbit required some sleuthing and a bit of luck. First, members of Hahn's team used a 2.2-metre telescope in Chile to update the object's position. Then they traced the motion of 2001 KX76 back in time using Astrovirtel, an electronic image archive. Luckily, the object turned up in several images dating back to 1982. Armed with two decades of data, Arno Gnaedig (a German amateur astronomer) calculated that 2001 KX76 is currently 43.2 astronomical units (6.5 billion kilometres) from Earth. Its orbit is similar to that of Pluto, locked in a dynamical resonance with Neptune that keeps it an average of 39.9 a.u. from the Sun. Millis has yet to propose a name for 2001 KX76. Brian Marsden, who coordinates minor-planet observations for the International Astronomical Union, says that by convention such "Plutinos" are given names for figures associated with the underworld. "Hades" might be a good

choice, Marsden hints, because of its prominence in Greek mythology.

SIR FRED HOYLE (1915-2001)

Sir Fred Hoyle, one of the most influential and controversial scientists of the 20th century, died in Bournemouth, England, on August 20th. He was 86. Hoyle is perhaps best known for championing the Steady State theory of cosmology. First published in 1948, this theory postulated that the universe is always expanding, and that matter is created at precisely the rate required to maintain a constant space density of galaxies. A steady-state universe has no beginning or end and its overall properties stay the same throughout time. Today the theory has been discredited, replaced by the Big Bang origin of the universe -- a term Hoyle himself coined and meant to be derogatory.

The British astronomer was instrumental in making one of the greatest breakthroughs in modern science. It was Hoyle, who in 1956 and 1957, helped develop the idea that nearly all elements heavier than helium are synthesised in stars. Hoyle was also known throughout the scientific community for outlandish views on topics such as evolution and panspermia. He questioned Charles Darwin's theory of natural selection, and believed that life came to Earth from microbes living in outer space. Hoyle was the first director of the Institute of Theoretical Astronomy at the University of Cambridge, which he helped found. He was elected as a Fellow of the Royal Society in 1957, knighted in 1972, and received the Royal Swedish Academy's Crafoord Prize in 1997. He was also a prolific science-fiction writer, authoring dozens of titles.

CANADIAN EYEBALLS NEW COMET

On Saturday, August 18th, the 200 participants at the Saskatchewan Summer Star Party experienced an exciting moment as Canadian amateur astronomer Vance Petriew announced he had discovered a comet -- just hours before and while at the star party.

Petriew had been observing deep-sky sights with his new 20-inch Obsession reflector. About 3:30am, he decided to swing over to M1, the Crab Nebula, but he never got there. Star-hopping down from Beta Tauri, in the horns of Taurus, he stumbled upon a faint smudge that he suspected immediately was out of place. Petriew checked his star charts to determine which galaxy he might be seeing. Luckily, Richard Huziak of the Royal Astronomical Society of Canada's Saskatoon Centre happened to walk by for the first time that night, and Huziak knew there were none in that area of the sky. The two observers plotted the object's position and continued to watch until dawn. Telltale motion through the stars certified that this was definitely a comet -- but was it already known? A download of the latest orbital data later in the morning showed no other known comet in the immediate area. "We suspected it could be Comet Wild 4," Petriew notes, "but that was 4 degrees away." Around 6:00 am they called the Central Bureau for

Astronomical Telegrams in Cambridge, Massachusetts. "With so many star parties going on the same weekend in the Northern Hemisphere I was sure someone else would have already discovered the comet,"



Petriew says, not to mention major sky-survey operations like LINEAR and NEAT. But the discovery proved to be his alone, as he learned the next day. It is a rare event these days for any amateur to discover a comet visually (the previous one, Comet Utsunomiya-Jones, was spotted last November). But to do so at a star party with 200 other friends and fellow astronomers present to share the excitement was a rare moment for everyone. Moreover, this is the first comet discovered at a major star party since Donald Machholz found one during the 1985 Riverside Telescope Makers Conference.

If you have something you'd like published in Scorpius, simply e-mail it in a document file to me at alphacent@iprimus.com.au, or, post it to me at 10 Stanhope Street, Dandenong 3175
Thanks, Richard Pollard (Editor)

ASF Inc. Annual General Meeting (AGM) Elections

Nominee: _____
 Proposer: _____
 Seconder: _____

} must be current financial members

Position (tick 1 or more ***):

Office Bearers: President Vice President Treasurer Secretary

Ordinaries: Public Officer Ordinary Committee Member (5 of these)

Acceptance Signature of Nominee: _____ Return to Secretary prior to 7 days before AGM.

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



Left - ASF members watching the movie Longitude on the 23rd June 2001
 Photo - By John Cleverdon

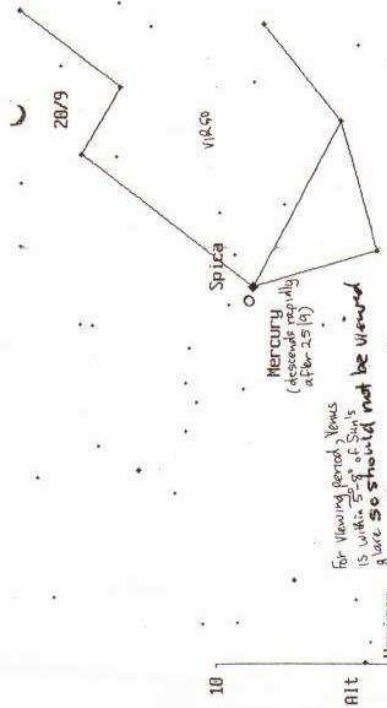
Below - Working Bee at the ASF Briars site on the 8th July 2001 & 12th August 2001
 Both Photos - By John Cleverdon



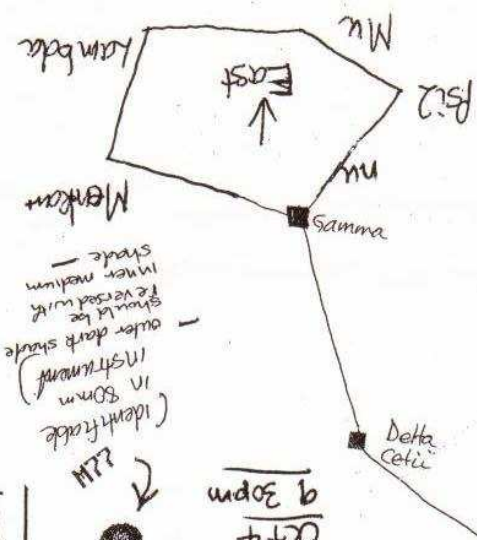
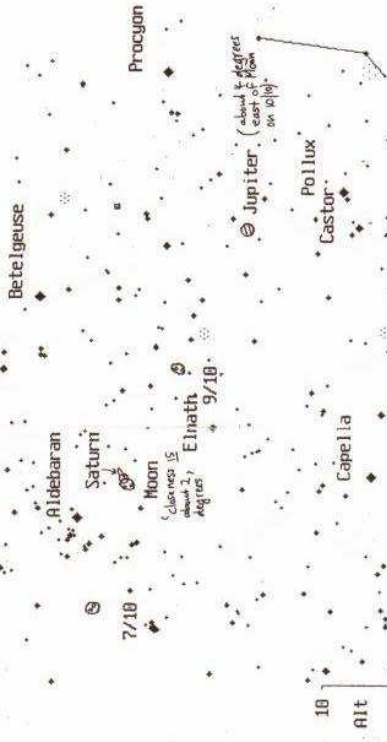
Kindly reproduced by Ken Bryant, labelled by Ian Porter, and collated/posted by the Zetter family.

SKY FOR THE MONTH 19 SEPTEMBER TO 17 OCTOBER (inclusive) 2001

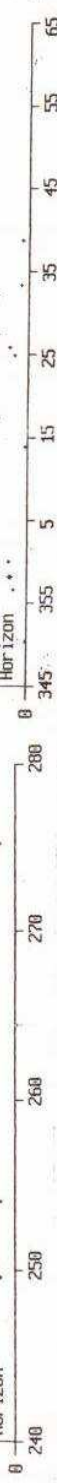
7 40 pm Near West Dark Sky 20th September 2001 Standard Time
01.00 (c) Bob Heale 10/4/99
All objects no fainter than 5.5 1 X Sky View



3 30 am Near North Night Sky 8th October 2001 Standard Time
01.00 (c) Bob Heale 18/4/99
All objects no fainter than 5.5 Bel X Sky View



18/9/01 Bob Heale, ASF



Albireo double
Albireo 5-1
orange yellow
light blue green 3-1
beautiful array
telescope

Albireo double
4-5
8
0
4-4
blue nearly but not connected
same proper motion (same proper motion)

Small scope view
N 362
N 104
SMC
late October
TUCANA
Zet
beta
gamma

Galaxies now dominate most of Southern Sky easy ones are N 253 (Silver Coin) N 55 (Penicillin) N1291 M 82 (Bode's Galaxy) use at least 80mm

Albireo double
N7293
N7009
M2
M15
I4895
M55
Mars
N6397
M7
M6
M8
M62
M17
N6633
Aitair M27
Albireo M57
N6871
Deneb N7686
M31

Handle of OVERHEAD
Around 4 October, 'creep' becomes an asterism with Mars

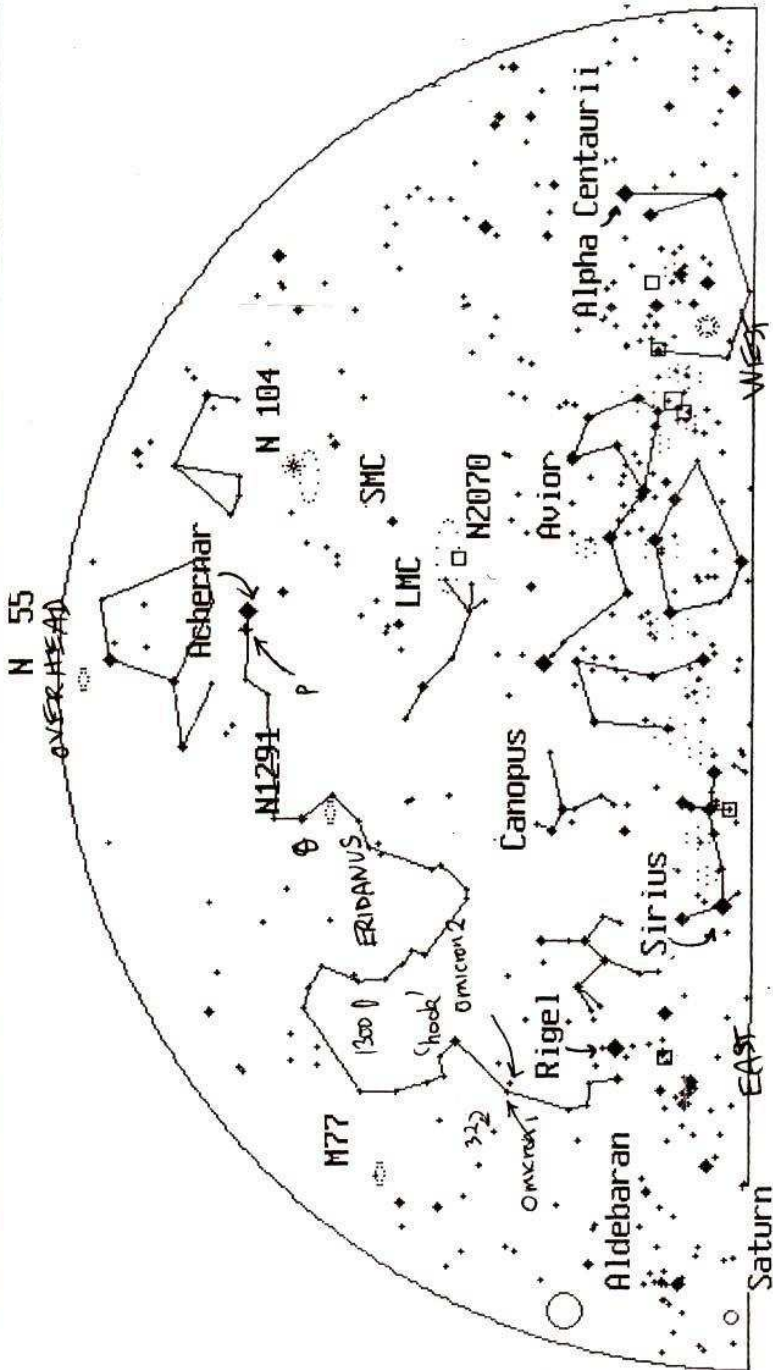
all essentially blue
0.67
0.5
0.57 0.13
Blue Optics 2x
staring multiple
for swizz
instruments
eg 8mm

Antares
M4
I4665
M10
M12

Handwritten notes:
N7331
N6871
M57
Deneb N7686
M31
N7293
N7009
M2
M15
I4895
M55
Mars
N6397
M7
M6
M8
M62
M17
N6633
Aitair M27
Albireo M57
N6871
Deneb N7686
M31

9 30 pm 4th October North-West Night Sky 2001 Standard Time
Current Northern Sky is stacked with easy objects as above and are labelled so a GoTo telescope can be used to find them, once it is initialized correctly or star hop

EASY ERIDANUS OBJECTS and others as one feels inclined

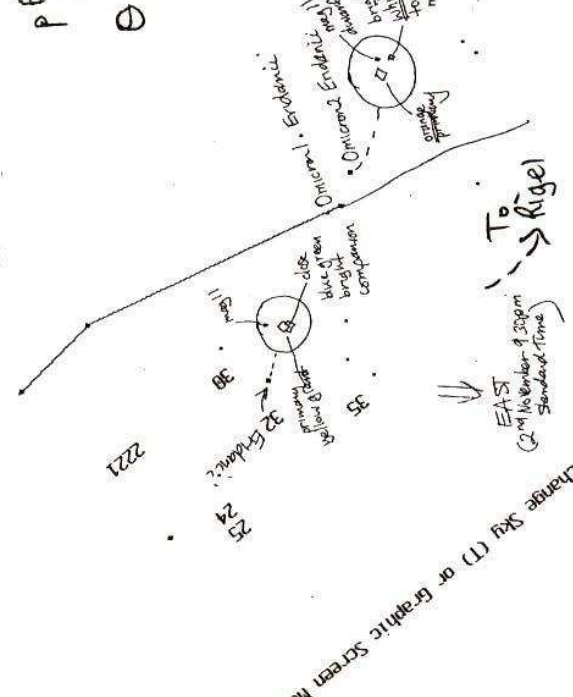


Bob Heale 11/8/81

9 30 pm 2th November South-East Night Sky 2001 Standard Time

- Eridani is a lovely orange / orange telescope double
- Eridani is a bright blue/white/blue white telescope double
- galaxy N1291 is visible in 80mm binoculars
- NSS faint light galaxy
- Note more stars right across

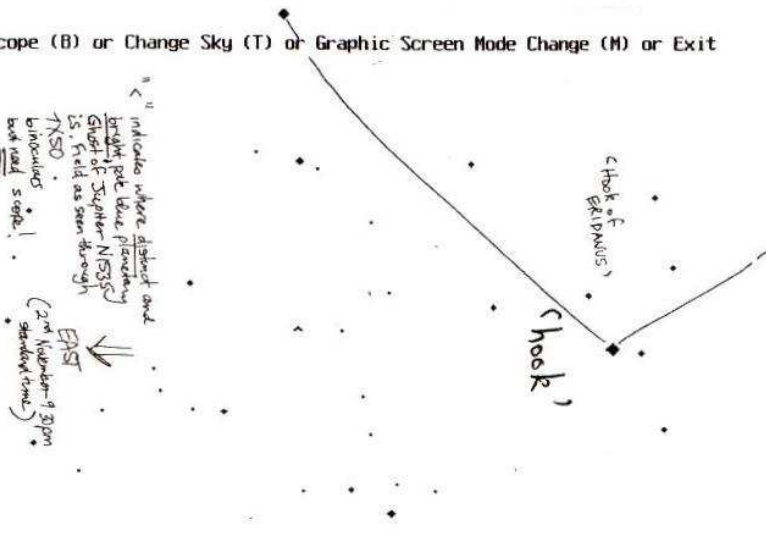
Bob Heale 11/8/81



Change Sky (T) or Graphic Screen Mode
 EAST (2m November 9 30pm Standard Time)
 → Rigel

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

< indicates where distant and bright pit like planetary glow of Spitzer NSSS is. Field as seen through 7X50 binoculars but read scope!
 EAST (2m November 9 30pm Standard Time)



17/10/2001
 Bob Heale ASF