

Web Page of the Month

Skynews



Calgary Centre of the Royal Astronomical Society of Canada

Welcome to the Homepage for the Calgary Centre of the [Royal Astronomical Society of Canada](#). For more information about the Calgary Centre please contact any of the [Executive](#).

The purpose of this page is to introduce people to the services that the Calgary Centre provides and to act as a way for [other RASC Centres](#) and the general public to keep in touch with the RASC Calgary Centre and its activities.

Bulletins and Updates

- [Fireball](#) Did you see the fireball on Jan. 15th, 2003?
- [Light Pollution Abatement](#) **under construction!** Lots of information on light pollution, from our Light Pollution Abatement committee.
- [Caroline work party](#) The May 2002 long weekend saw a number

Credits and Special Mentions!

- [Credits and Special Mentions](#) This site exists because of the major contributions in time and materials of a few special people. Please take a moment to learn more about these special friends of Calgary Centre.

<http://www.syz.com/rasc/>

also see Ed Paddy's Centre Events Webpage

FEBRUARY Click on Month name to centre up calendar. See Handbook p78 sky events, p304 holidays.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1 Icarus Legend at bottom of month	2 Venus Earth Mercury Sun	3 Jupiter at Opposition	4 CBC Radio: astron. segment	5 Avalanche and Columbia memorial books for signing at CSC thru Feb 6	6 Light Poll Mtg?	7 Public Observing CSC last day to purchase Banquet Tickets INFO
8 Observers Group WCO 2000 hrs Chinese New Year new moon	9	10	11	12 Council Mtg 1930 hrs CSC CSC's Explore the Sky Course Family Edition	13 Public Observing CSC Valentines	14 Annual Banquet
15 Annual Banquet	16 Dome Motor maint. this week full moon	17 Holiday	18	19 Zodiacal Light Two-Two Weeks see OH p237	20 General Mtg 1930 hrs CSC Extraordinary Resolution Vote Speaker Grant Quiz	21 Public Observing CSC
22 Full Council report submissions by today	23 Nat'l Council Meeting, Toronto	24 Week to 100th anniversary of name Royal in RASC!	25 Calgary Home and Garden Show Feb 26 - March 2 Volunteers needed Please see Roland	26	27 Public Observing CSC new Moon will be Mar 2, 10:05hrs Csu	28 March 1 Mars at WCO Mars at WCO Link to MARCH and later

Meeting Public Invited Event Broadcast Astronomy Item Note Cgy Means Timing In Calgary [sites 2000](#)



February 2003

Number 242

<http://victoria.tc.ca/~rasc/>

This Month

February 12, 2003

Canada France Hawaii Telescope Legacy Survey

Margaret Milne is a graduate student in astronomy at the University of Victoria. She is working on her Masters thesis with Dr. Chris Pritchett in the field of Observational Cosmology. Margaret has a keen interest in science education and public outreach: she writes science articles for UVic Communications, volunteers with the Lets Talk Science program and does promotional work for the Canada France Hawaii Telescope Legacy Survey. When she completes her Masters degree, she hopes to continue on in the field of science communications.

The Canada France Hawaii Telescope Legacy Survey will be the largest observing project in Canada over the next five years. A joint effort of the Canadian and French astronomy programs, the CFHTLS will use the Canada France Hawaii Telescope and MegaCam, the world's largest astronomical camera, to study things as near as our solar system and as far as the distant universe. In this talk, I'll tell you how the CFHTLS will help us to understand dark energy, make maps of dark matter, and fully survey the Kuiper Belt.

Future Meetings

March

Dr Puragra Guhathakurta (Raja) – HIA Herzberg Fellow.

April 9

Ernie Pfannenschmidt: Backyard Aresography.

May 14

Chris Willott, Research Associate at the NRC's HIA

June 11

Falk Herwig, Post Doctoral Fellow at the University of Victoria

Address Change? Information Incorrect?

Telephone: (416) 924-7973 (toll-free at (888) 924-RASC in Canada)

Fax: (416) 924-2911

E-Mail: rasc@rasc.ca Website: www.rasc.ca

Postal Mail: RASC, 136 Dupont Street, Toronto, ON, M5R 1V2, Canada

RASC Victoria Council

This Month

President: Chris Gainor
1490 Thurlow Road
Victoria, BC V8S 1L9
380-6358
cgainor@islandnet.com

Vice President: Rich Willis
881-7523
richly@telus.net

Treasurer: Laura Roche
8581 Sentinel Place
Sidney, BC V8L 4Z8
656-2396
lroche@shaw.ca

Secretary and Recorder:
Robert Walker
rwalker@shaw.ca

Honourary President:
George Ball

Librarian & Telescopes:
Sid Sidhu
J.S._Sidhu@telus.net
Past President and
National Representative:
David Lee
479-5187
David_Lee@telus.net
Skynews Editor: Sandy Barta
Website Editor: David Lee
Email list: Joe Carr

Members at Large:
Bill Almond, Sandy Barta,
Li-Ann Dorrance, Jim Hesser,
Ed Maxfield, Frank Ogonoski,
Blair Pellatt, Bruno
Quenneville, Colin Scarfe

New Members Liason:
Sandy Barta

Every
CLEAR
Friday

Feb
28

Feb
26

Astronomy Cafe

At Sandy Barta's, 2949 Michelson Road,
Sooke, BC
Call 642-0205 for more information or
directions.

And you **WILL** need directions!

The Astronomy Café is an astronomical
conflab and if it's clear (and we are willing
to give up our comfy chairs) we observe
under an unbelievably dark sky.

Newcomers are most welcome.

Come and enjoy!

Please :

**Call or check our website to find out
if it's likely to be clear.**

New Observer's Group

At Sid Sidhu's:

1642 Davies Road (off Millstream Lake
Road) at 8:00 PM.

Call 391-0540 for more information or
directions

March Meeting

University of Victoria, Room 061
Elliott Building

**Astronomy Day
Saturday May 10, 2003
at the Royal BC Museum**

Council Meeting

Everybody welcome!

Yes, We post important,
timely, member related
news to our email list.

Online information about the RASCvic
and Skynews email lists:

<http://www.rascjoetourist.net>

Mirror Cell Wanted

I'm an old frump of 83 years of age and a member of the RASC Victoria Centre. My brain hasn't gone to mush yet, although I sometimes wonder. I have a problem and I'll try to explain to you what the problem is.

Back in the 1950s I ground a 6" Pyrex glass for a Newton 6" reflector. When I finally finished the grinding and polishing I sent it to H.L. Clausing Inc in Skokie, Illinois, USA and I see they are still in business. They checked it out and coated it and told me that it was a fine job I'd done.

I bought from Edmond Scientific their German Equatorial Mount with the clock drive plus everything else needed including a Barlow Lens. I was living on the waterfront at Saltair between Ladysmith and Chemainus. I was amazed at how clear Saturn and Jupiter appeared.

I have moved around considerably ... Vancouver, Seattle, Sidney, BC all places spoilt by night lighting. I never set the scope up but I moved up to Errington, just outside Parksville. It's darker than the inside of a cow here ... note even a street light and our property is twenty acres.

I believe I still have all the parts except I need a 6" mirror cell, heaved-out the one I made using valve springs. I have a grandson who is after me to get this scope back in shape and I'm wondering if any of the members in the club could help me to find a mirror cell and new plastic Setting Circles.

I wrote to Edmond, but they didn't even answer my letter, I suppose there's not much money stocking mirror cells and setting circles. After all it's 58 years since they had their 6"x8" little catalogue.

Anything the club can do to help me would be gratefully appreciated. Thanks.

Sincerely Lloyd Armstrong

1290 Middlegate Road, P.O. Box 774, Errington, BC V0R 1V0
Phone: 1 (250) 248-6810

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President's Message

Recently I read "Looking Up", Peter Broughton's 1994 history of the RASC. The biggest thing that struck me about that history was the major role the Victoria Centre and its members have played in the RASC in the nearly 90 years since this Centre was founded.

A major reason for the Victoria Centre's prominence is the Dominion Astrophysical Observatory, which is one of Canada's top facilities for astronomy. Most of Canada's major astronomers spent time working at the DAO, even after the David Dunlap Observatory near Toronto opened in 1935.

The Victoria Centre was a major beneficiary of the DAO's presence, but there is more to our Centre than that. After all, the Victoria Centre was set up in 1914, four years before the DAO saw first light.

The physics and astronomy department at the University of Victoria has strengthened astronomy on the Island. Many professional astronomers who plied their trade elsewhere retired in Victoria and joined the Centre. As well, this Centre has had its share of skilled and enthusiastic amateur astronomers.

Many RASC national officers and winners of national awards have come from Victoria, and the RASC General Assemblies for 1981, 1988 and 1998 took place here. The 1972 GA took place jointly in Victoria and Vancouver. Given that Victoria has one of the smaller population bases for an RASC Centre, we have more than pulled our weight.

Fortunately, one doesn't have to consult a book to find out about our storied past. Many senior members are still active.

Chris Spratt recently donated his meteorite and tektite collection to the National Meteorite Collection of Canada. I always look forward to seeing our Honourary President, George Ball, at our meetings. Don Dundee and the late John Howell were active members of council until last fall. When I first started coming to Victoria Centre meetings, the first member I spoke to was our then honorary president, Dr. John Climenhaga, who still regularly attends.

I always look forward to talking to these and other longtime members at our meetings and other gatherings. They help link our vital past with our changing present and exciting future.

Chris Gainor

The deadline for the next issue of *Skynews* is

February 22, 2003

Get your *Skynews* early and in colour. Tell Laura, our Treasurer, that you get *Skynews* on line and we won't mail you a copy.

General Meeting Minutes

January 8, 2002, 7:30 pm at UVic

Welcome: Chris Gainor welcomed everyone to the first meeting of the new year.

Chris reminded us of the talk at the Centre of the Universe on Friday January 10th. Unfortunately, Ray Villard is unable to attend this event due to unforeseen circumstances, but Dr. DeVorkin will still be speaking. Ray Villard will still be giving his talk on Salt Spring Island on Monday Jan 13. Tickets available from Chris or at the door.

Treasurer's Report: Lauri Roche reports our current bank balance as of is \$4400 with \$1900 more in the gaming account.

Lauri reminded everyone that they can order subscriptions to Sky & Telescope through her at a reduced rate over the general public rate. Members also get a 10% discount on all Sky Publishing orders submitted through the Centre. She also reminds everyone to sign up for Internet delivery of our SkyNews newsletter to help reduce the Centre's mailing costs.

Calendars are in so if you ordered one please pick yours up. Laurie also indicated that mailings from National Office are somewhat delayed as the RASC now has almost 5000 members to handle. The Victoria Centre membership stands at 189 members currently.

Messier Certificate Presentation: David Lee presented a RASC Messier Certificate to Bill Weir. Congratulations Bill!

Library and Telescopes: Sid Sidhu asks that people return borrowed books to the library. The library will be open after the meeting for 15 minutes for members to borrow books. Sid also indicated that many of the books in the library are getting old and asks everyone for recommendations on new titles for the Centre to purchase for the library. Sid will work with David Lee to see if we can publish the library index on the web site.

Sid also thanked the school telescope program volunteers. If you would like to volunteer to help out at a school event, please see Sid.

May 10th, 2003 will be **Astronomy Day** at the Royal BC Museum again this year. We will need 30-40 volunteers again, so please consider talking to Sandy Barta who will co-ordinate volunteers.

Sid also reminds members of the **new observers group** at his house on the 4th Friday of each month. See SkyNews for details.

New Members: Sandy Barta introduced herself as the new members' liaison and indicated she has a number of resources for new members. She will stay

Continued on page 4

John Howell

We announce with sadness the passing of John Howell on January 27, 2003. Our hearts are with his family.

My father, John Howell, was an active member of the Victoria Centre. He had a life long passion for watching the stars, as shown in the article he wrote on page 66 of the April 1998 issue of the Journal:

http://adsbit.harvard.edu/cgi-bin/nph-iarticle_query?bibcode=1998JRASC..92...66H

It is with sadness that I must inform you that on Monday of this week, he had a stroke and passed away.

His wife, Carol Howell, asked me to let you know when the memorial service will be. It will be on Saturday, February 8 at 2:00 p.m. in the Ganges United Church on Salt Spring Island. We welcome anyone who would like to attend the service or share the experiences they had with John Howell.

In lieu of flowers, donations may be made to the Canadares Society (relief to the homeless street children in Dar es Salaam, Tanzania), 1605 Mission Road, Sechelt, BC V0N 3A1

Sincerely, Debbie Bateman

John Howell was born in Bristol, England in 1918. He immigrated to Canada in 1957 and there he soon joined the Calgary Centre and was very active promoting astronomy with the public. In 1964 in liaison with the Calgary School board he headed a committee to organize a first ever Astronight for the young and old.

After his retirement from the Calgary School board, John moved on to Victoria, and there he was ever present at the Council meetings and bringing forth new observing projects to further the scientific knowledge of astronomy not only for the Armatures but also for the professional astronomers. He was always willing to lend a hand at the hobby shows. He never missed an opportunity to attend stars parties. What we liked most about John was he sharing his observing experiences of occultations of the Moon or binary stars.

We will certainly miss his presence and his wisdom at the Victoria Centre's meetings.

Sid Sidhu

John has long been active in the Victoria Centre, and he retired from our council in November. Recently, he was promoting the idea of producing a television program on Canadian astronomers, which I spoke about last May at the Montreal GA. John was well known to RASC members all over Canada.

We are expressing our condolences to his wife Carol.

Chris Gainor

The Night Sky

February 23 to March 2

Spring skies seem bland and uninteresting; dull, sparse constellations, no glittering Milky Way. We're looking away from our home galaxy into a universe that extends back to the big bang. Galaxy hunters stalk their prey southeast of Leo and in Virgo (although any vista above and below our galaxy contains galaxies galore).

March 3 to March 8

Watch for Vega's appearance in the east—summer's coming! It's really not that cold, is it? The teapot (well, okay, Sagittarius) plays host to this so far modest morning Mars. But, there are some treats for you ... and an excuse to add more Messier objects to your growing list. Mars takes an impressive tour across the grand Milky Way stage and passes in front of some faint fuzzies - and you can watch the show with binoculars or a small scope. On the 6th and 7th, Mars floats between M8 (Lagoon) and M20 (Trifid).

March 9 to March 15

Mars lurks near the globular cluster, M22.

On March 12th, we see Neptune in the background and Venus in the foreground. Pretend you are looking down on the Solar System. Try to sketch where you think we are relative to the Sun, then plot Venus and Neptune. Where would Uranus be? Take another look at Venus near the end of the month. Does it look like Venus has a companion? Who is this companion?

The Moon and Jupiter lie close in the sky on the 14th.

March 16 to March 22

Vesta is in opposition and is almost 6th magnitude. Once you've identified it in binoculars you should be able to see it with just your eyes—be sure to get away from city lights.

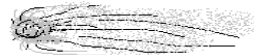
March 23 to March 29

Venus has been closing in on Uranus in the morning sky. On the 28th, Venus and Uranus hang close to each other and we'll see them closer together here than any other time zone in North America.

March 30 to April 5

Get out your binoculars and enjoy Jupiter's stay in the Beehive cluster. The days around the 4th give you a chance to watch and sketch Jupiter change direction relative to the background stars—Jupiter begins to move against the flowing star river (this is called 'retrograde' motion). We're pulling ahead of Jupiter in our inside track.

If you're on the ball, you'll spot Mercury hanging out with a crescent Moon on the evening of the 2nd.



General Meeting Minutes Continued

after the meeting to answer any questions new members may have

Tonight's Program: Members Night

Bob Earl of the Amateur Radio Club and Dave Ireland of Scouts

Canada presented a proposal to the Victoria Centre to see if we are interested in locating an observatory at Camp Bernard in Sooke. Camp Bernard is an approximately 300-acre site with very dark skies and some large fields suitable for observing. The Amateur Radio Club intends on setting up a HAM radio station there. There is also the possibility of a joint project to try some radio astronomy as well. Chris indicated that the executive would discuss this proposal at the next council meeting.

David Lee gave everyone a short overview of the Basic Astrophotography course he will be teaching at the Centre of the Universe in February. Details are available on the CU web site at <http://www.hia-ihc.nrc-cnrc.gc.ca/cu> The cost is \$59.

Sid Sidhu entertained us with several humorous samples of thank you letters he has received from students of the school telescope program.

The meeting adjourned at 2035h

Robert Walker, Recorder

Big Crowds for DeVorkin and Villard

The auditorium in the Centre of the Universe was full on Friday, January 10, for a special talk by Dr. David DeVorkin, the Curator of Astronomy at the Smithsonian Institution. Dr. DeVorkin had come to Victoria to visit the historic facilities at the DAO, and in his talk, he spoke about the challenges of setting up the "Exploring the Universe" gallery at the Smithsonian's Air and Space Museum in Washington, D.C.

For this gallery, the Smithsonian has gathered historic artifacts including William Herschel's telescope from England, and the backup mirror for the Hubble Space Telescope. Each artifact presented special challenges, and some involved trips overseas, which Dr. DeVorkin recounted in an entertaining style.

A family emergency prevented Ray Villard, Public Information Manager for the Space Telescope Science Institute in Baltimore, from speaking on January 10. But he was able to make it for the following Monday on Salt Spring Island. He spoke to a crowd of 300 about the latest findings from the Hubble Space Telescope. The talk included many sensational photos. The size of the crowd indicates that there is a great deal of interest in astronomy on Salt Spring.

Chris Gainor



Invisible Tornadoes

The biggest problem with tornadoes—next to the swirling 300-mph winds—is that it's hard to see them coming.

But, soon scientists will be able to foresee, not merely tornadoes, but the severe storms that spawn them, hours before there's even a cloud in the sky! Mind you, this isn't a vague "30 percent chance of rain today" type forecast. Thanks to a new satellite technology being co-developed by NASA, NOAA and the U.S. Navy, emergency personnel will actually watch the invisible beginnings of a storm unfold.

"They're going to know where the storm centers are forming before the storms are there," says James Miller, project manager for Earth Observing 3 (EO3), a satellite that will test out this new technology in 2005 or 2006.

Unlike the tiny water droplets that make up clouds, the water vapor that feeds storms is invisible to the human eye. Water vapor is easy to detect, however, at infrared (IR) wavelengths. EO3 will use an IR-sensitive device called GIFTS—short for Geosynchronous Imaging Fourier Transform Spectrometer—to make 3D movies of temperature, pressure, and water vapor in Earth's atmosphere.

Three or four hours before the storm clouds are visible, meteorologists will notice water vapor converging toward an area. This water vapor, which provides the "fuel" for the coming storm, is too close to the ground for today's weather satellites to see. Then meteorologists will check precisely how the air temperature over that area varies vertically (something else ordinary satellites can't do). This temperature variation determines whether the humid air will rise to form storm clouds. And when these conditions look ominous, the meteorologists can alert the public.

The goal of EO3 is to "test drive" this new technology and prove that it works. If successful, NOAA plans to incorporate GIFTS-style sensors into its next generation of weather satellites.

These future satellites will give meteorologists exactly what they need in order to give the people exactly what they need: an earlier warning that tornadoes may be on the way.

Continued on page 6

Shadows in the Night Continued

its maximum apparent speed throughout, 143,000 km in 217 minutes, or ~11 km/s. But the spot, one near the equator at least, rotates around the jovian circumference of (143,000 times pi) every ~10 hours, or ~12.5 km/s. Its superior speed can only be noted when the feature is near the meridian. It's funny that of the four major moons, two have a speed that's slightly faster than the planet's own rotational speed (Io ~17 km/s, Europa ~13), the other two slightly slower (Ganymede ~11, Callisto ~8). Only the outer moons, Ganymede and Callisto, can appear to be caught and passed by a surface feature in the manner I observed last night. A very cool obs in my opinion.

Just after 2 a.m. Europa re-emerged from Jupiter's trailing limb, and for a time we had the two dark "eyes" of Ganymede complimented by the white dots of Io and Europa to either side of the planet, a quite astonishing sight. As Ganymede's shadow neared the limb, it distended into a subtle oval shape (this is much more apparent nearer quadrature) before going gentle into that good night like a disembodied whisper, reminding me as it always will of my departed friend Darcy (see "Lost in Transit", JRASC 2002 June). By this point Ganymede itself was a dark spot pretty close to the geometric centre of Jupiter, a central black moon bracketed by two white ones to either side of the giant planet. I watched a while longer as Ganymede again started to overtake the white spot on the NEB before calling it a night around 3 a.m., some six hours after I started. Over that time I had experienced a particularly satisfying combination of unusual images and conceptual nuances. Jupiter rarely fails to deliver in both respects.

Bruce McCurdy

Bruce McCurdy is a Past President of the Edmonton Centre, RASC, and currently serves the national Society as Astronomy Day Coordinator. Bruce is a contributing editor to the Journal of the RASC, where his column Orbital Oddities pursues his interest in solar system dynamics.

Helen Sawyer Hogg Telescope

First light was achieved during the night of 29/30 January 2003 with "Helen" in Argentina. The 0.6 m Helen Sawyer Hogg Telescope (HSHT) was located at the University of Toronto Southern Observatory (UTSO) on Las Campanas mountain in the Atacama desert of North-Central Chile. First light in Chile was in August of 1971; last light in Chile was at the end of June, 1997, when the observatory was closed due to increasing costs and decreasing support from the Government of Canada.

An agreement with the Argentina astronomers gives The University of Toronto 25% of the time. Argentina will bear all costs. More details will be given after the dedication, for which no date has been set yet.

Bob Garrison

Shadows in the Night Continued

brownish dot against the bright zone; commonly it is completely lost in one of the equatorial belts that pretty much define the limits of its apparent wandering over the course of a full jovian orbit.

By 10:25 p.m. Ganymede's shadow had made its way onto Jupiter's disc, a huge black ink spot just grazing the inside edge of the S.E.B. Its slightly different flight path against the background features confirmed that the equinox hasn't been achieved quite yet, which is no doubt why most of the events in the current series involving Jupiter's moons occulting or eclipsing each other have been partial to this point. In March as Jupiter sweeps through its official equinox, all four shadows will be pretty much exactly equatorial, and more of those satellite-on-satellite *eclipses* will be central (total or annular rather than partial). Because they are line of sight events, inter-satellite *occultations* have the added variable of Earth's position, which currently is slightly inclined to the Sun-Jupiter plane; the most favourable line-up for central events won't happen until July.

More spectacular by half than the double shadow transit was the doppelganger transit of Ganymede and its own shadow. Ganymede was an easy object to follow right across the jovian disc, as its large size and low albedo made for a striking contrast against the backdrop of the bright Equatorial Zone. The giant moon wasn't quite as black as its shadow, but I would still describe it as black nonetheless. Maybe a very deep charcoal grey. Together the two resembled a pair of cartoon eyes, frowning out from beneath the furrowed brow of the South Equatorial belt.

Unlike the double shadow transit which featured shadows of different speeds gradually growing ever wider apart, Ganymede and its shadow moved across the disc at identical speeds, separated by just under half of a jovian diameter. A quick calculation shows that both events lasted 217 minutes, which is pretty much the limit for Ganymede as only at the equator does it have to cross Jupiter's full diameter. Ganymede's ingress and outgress—oops, egress—were some 100 minutes later than the comparable events for the shadow, so it was about 45% of a jovian diameter behind.

One particularly interesting observation concerned a white spot on the equatorial edge of the NEB which played tag with Ganymede. While Ganymede itself completed its transit in 3h37m, the spot spent almost five full hours (half of a rotation period) on the day side of Jupiter, which suggests slower movement. However, this movement is apparently very slow near the limbs due to foreshortening, then relatively faster through the meridian, during which time it appeared to catch and pull ahead of Ganymede for a time. The moon itself appeared to cross the jovian disc at virtually a constant rate, inscribing only a tiny arc of its full orbit virtually perpendicular to the line of sight and therefore at

Continued on page 10

The Space Place Continued

GIFTS and EO3 are managed by NASA's New Millennium Program. NASA and NOAA will operate EO3 during its first year in geosynchronous orbit above the United States. If the technology works as planned, the U.S. Navy will assume control of EO3, move the satellite to a point above the Indian Ocean, and use it to monitor weather in shipping lanes there.

For adults, the EO3 web site at <http://nmp.jpl.nasa.gov/eo3> has more about the mission and the GIFTS instrument. For children, The Space Place web site at http://spaceplace.nasa.gov/eo3_compression.htm has a jazzy, interactive "squishy ball" demo of the data compression methods that will be used on EO3.

By Tony Phillips



This severe tornado hit south of Dimmitt, Texas, on June 2, 1995

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

The Cover

The Flame Nebula NGC 2024

Wow! What a reward...what an opportunity!

1.8 m Plaskett Telescope. R B V filters
November 30 / December 1, 2002

Sandy Barta

Mount Stromlo Observatory

The devastating Australian bushfires of January struck the Canberra astronomy community in several ways—none of them good. Fire over-ran the Mount Stromlo Observatory on January 21. The 70-year-old facility loss was estimated at \$40 million. The blaze not only razed a near-downtown popular visitor centre (30,000 attended last year) but also destroyed several Australian National University (ANU) projects and records, four telescopes, a workshop, eight houses and a heritage-listed administration building. Furthermore, about \$4 million had just been spent and four years of work had gone into a Near-Infrared Integral Field Spectograph which was in its final testing phase prior to shipment to the Gemini North telescope in Hawaii. It's all in ruins.

But Aussies are optimists. They're planning to rebuild the centre, if not in its previous configuration. It is expected to be suitable for school-class events and serve as a tourist facility. However, the major astronomical telescopes will be located at a remote location and the collected data relayed to another ANU facility. The ever-spreading light pollution problem is the major factor in that decision. Local officials are anticipating that the now-cleared surrounding landscape at Mount Stromlo will be suitable for housing.

(excerpts from The Canberra Times and Sydney Morning Herald)



George Gibson

Shadows in the Night

By happy coincidence I read Murray Paulson's Planet Report in the Edmonton Centre newsletter, Stardust, early Wednesday evening January 15. In perusing Murray's list of selected mutual phenomena involving the Galilean satellites, I noted a series of events involving three of the moons, including a double shadow transit, was imminent. For what I'm ashamed to admit was the first time this Jupiter season, I set out the scope for an extended session observing my second favourite planet. (Earth is of course No. 1.) As a bonus, both Saturn and the Moon were well-placed for observation as well, so I spent some enjoyable time with each of the Big Three.

Although they continue to share the winter sky, Jupiter and Saturn are now at nearly opposite extremes, with the ringed wonder nearing a solstice while the King of Planets sweeps through an equinox. Saturn's south pole is near its maximum tilt towards the Sun, so the rings are open to their widest extent, and the moons inscribe apparent ovals which are identical in form but of course much larger. The shadow of the ball cuts an unusual figure on the back ring, a misshapen black hump which is delineated to some extent by Cassini's Division. The other favourable angle associated with Saturn involved my telescope, which at 11 p.m. was aimed at about 60 degrees altitude, near the maximum possible for a solar system object seen from Edmonton's latitude, and a reminder that, unless I move way south, the current observing window is the best I can expect to experience; in a best-case scenario I'll be a septuagenarian the next time it hits the top of the ecliptic.

In contrast to wide-open Saturn, Jupiter is presently a closed system with the satellites appearing to sweep back and forth in linear fashion through the centre of the planet. Events such as transits and shadow transits are particularly well seen against the bright Equatorial Zone. Thus a night such as Wednesday with its multiple events was a real treat.

The shadow of Io made a leisurely entrance smack dab between the stripes just after 9 p.m. local time, and for a time made a fine pair with Io itself, a dark spot against a bright background complimented by its photo negative just off the limb. Such subtle lighting angles always bring home the 3D nature of what I'm seeing. Just before the bottom of the hour, Io and Europa disappeared on opposing limbs, with Io passing in front of the giant planet and Europa being eclipsed by Jupiter's shadow. The event was poorly seen due to some ice fog which came up and appeared to threaten my entire session.

Fortunately, this largely cleared up over the next hour, and I was mainly treated to some outstanding seeing thereafter. Following about 0.2 of a jovian diameter behind its shadow, Io was faintly discernible as a small

Continued on page 9