

The Spectrum

Volume 5 Issue 2

Early Spring

March / April 2003



Table Of Contents

President's Message
Page 2

Membership Corner
Page 3

Star Parties
Page 3

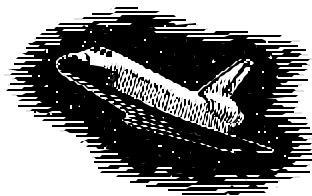
Upcoming Meetings
Page 3

Observatory News
Page 4

BAA Annuals
Page 4

Evening with Saturn
Page 5

For Sale
Page 7



Annual March Dinner Meeting

The Buffalo Astronomical Association Inc.
Cordially invites you to the

Annual Dinner Meeting and Banquet

Friday, March 14th 2003

Cash bar at 6:00/ dinner at 7:00pm
Banchetti – 550 North French Road
Amherst, New York

Featured guest speaker

Dr. David Chesebrough

President and CEO Buffalo Museum of Science
Speaking on upcoming improvements to
the Kellogg Observatory and the Gibson Space Hall

Choice of entrée

New York Strip Steak \$21.50

Chicken Wellington \$19.50

Glazed Salmon \$19.50

Pasta Primavera \$16.00

RSVP with choice of entrée and payment by March 4th
Buffalo Astronomical Assn.
c/o Beverly Orzechowski
125 Roycroft Blvd.
Snyder, New York 14226

Upcoming Events

Noted science author **Chet Raymo** will visit Buffalo on Monday April 28th as part of WBFO radio's Meet the Author series. You might be familiar with Chet's popular astronomy titles, including *365 Starry Nights* and *An Intimate Look at the Night Sky*, both of which are available from the BAA library at the Beaver Meadow Observatory. This event will feature readings from his latest book, *The Path* and will include a question and answer session with the audience, and a reception and book signing to follow. The event, which is free and open to the public, is sponsored by WBFO with support from the BAA, the Buffalo Museum of Science and Talking Leaves Bookstore and will be held at Allen Hall on UB's Main Street Campus at 7:00pm. For additional information, contact WBFO at 829-6000.

All BAA members are invited to attend the **Annual Banquet of the Royal Astronomy Society of Canada** (RASC) to be held April 12th at Delphi Hall in Niagara Falls, Ontario. Guest speaker will be Ivan Semeniuk, writer and astronomy reporter for the Discovery Channel's daily science news program *Daily Planet*. Ivan's topic is titled *Aristotle's Forest – Exploring the New Cosmology* a wide ranging presentation on the "golden age" of cosmology. The event begins at 5:30pm and includes dinner, music and dancing. Tickets are \$45.00 CDN (\$30.00 US.) To order tickets, or to receive additional information, contact: Joyce Sims, Banquet Ticket Sales at 905-262-5276 or visit the website of the Niagara Centre chapter of RASC at www.rasc.ca/niagara.

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STAR PARTIES

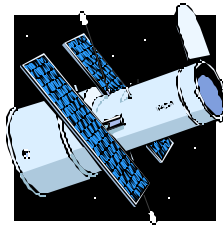
Jeff Gardner

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**BAA Web Site**

Tom Bemus and Bill Smith put together a club web site at :

<http://members.aol.com/BufAstro/>

**Meetings**

BAA meetings are held on the 2nd Friday of the month from September to June in the New Science Building on the Buffalo State College Campus. Meetings start at 7:30 pm and all members and guest are encouraged to attend.

Spectrum Deadline

Articles for the next Spectrum will be due by:

April 11th 2003

President's Message by Joe Orzechowski

I'm writing this a few days after our February 14th meeting. Those who attended that meeting got a wonderful overview of the BAA's Robotic Telescope Project (let's call it the RTP) that is currently underway. Presentations were made by several members who are involved in the many different aspects of this project. (Let me say up front that I am not naming names in this article because there are several people who are instrumental in getting this project off the ground and keeping it going and I'm sure I would leave out one or more of them.) These presentations were very informative but they also got me thinking about the impact of this project on the BAA.

The RTP is a long term project (there are three phases currently defined) that will require people knowledgeable in many different disciplines to come together and make it happen. As such, I think this project can serve as a focal point, getting more members involved in BAA activities and perhaps for attracting new members into the organization. In fact, I've noticed that quite a few members have already joined the project since its inception. Hopefully, this is an indication of things to come. The long term nature of the project permits members to become exposed to it and informed about it over a period of time. So, if you're not quite sure whether you want to get involved at this time, just hang around the meetings or at the observatory and find out what's going on. You'll have plenty of time to decide. As the project moves through it's three phases, you may find that there is an aspect of the project that tickles your fancy.

The broad scope of the RTP means that successful completion of the project requires help from people with a wide range of skills. We'll need people who can design and build a structure to house the scope, protect it from the weather and have a roof that can be automatically opened and closed. We'll need people who can set up and maintain the Internet connection and the computer network at the observatory. We'll need people who can work with and maintain the LX-200 and

the SBIG ST-9 CCD camera. Eventually, when we get closer to the fully robotic stage of development, we'll also need people who can work with sensors and mechanical controls. We'll need people who can become familiar with the software applications that will be used to control the telescope and camera and perhaps even people who can write software to monitor the sensors, run the controls and integrate all of this stuff so that it all plays together without damaging the scope, tearing the roof off or taking a whole bunch of images of the inside of the telescope enclosure.

And the beauty of this project is that we derive benefits from it all along the way; we don't have to wait until it's completed before we reap the rewards. For example, we already have a high speed Internet link at Beaver Meadow. The new ST-9 CCD camera has been ordered and, as soon as the weather breaks, those members involved in that part of the project will get it installed and start experimenting with it. This will give us the ability to use some of the latest technology to capture images. With the high speed Internet access, your images can be sent anywhere in the world. Or the images can be stored and you can retrieve them later using your home computer. Once software control of the LX-200 is in place you'll be able to do imaging using the new CCD camera from the comfort of the observatory's relatively warm computer room. And so on and so on.

After reading all of this I don't want you to get the wrong idea. All of this stuff is not listed on some program schedule with personnel assignments and completion dates. This project will only progress if members are willing to get involved and put some time and effort into it. The more members get involved, the sooner the project will be completed. So, hang around, keep your eyes and ears open and when you find something you like, pitch in.

Membership Corner

A few hardy Western New Yorkers have awakened from mid-winter hibernation to become new members of the BAA. Welcome to Mary Hughes (our longtime friend from Beaver Meadow Nature Center), Violet and Elizabeth Peña and Elliott McKinley. If you would like to get in touch with new members, or stay in touch with old BAA friends, Tristan has compiled a new printed edition of the Membership Directory, which can be obtained at any membership meeting. For those who participate in the BAA egroup, an electronic version can be downloaded from the files area at http://groups.yahoo.com/group/buffalo_astro_assoc. Here you will also find a copy of the 2003 BAA brochure and membership application, which can be downloaded and printed (or emailed) to interested folks. If you have any membership questions or comments, feel free to contact us at BuffaloAstronomy@aol.com. In less than a month, it will be spring and a new season of public nights will be underway. We look forward to seeing you there.

Alan and Tristan

Star Parties

Hello Everyone!

Well it may not seem like it, but it's time to think Spring! And Spring means Star parties!

As I hope you are all aware star parties are a great opportunity to get out and meet other club members while sharing the fun of astronomy has to offer. Club members are welcomed and encouraged to host their own star parties. Star parties are a great way to get out and enjoy the night air and spend some time with friends, family and doing something you really enjoy observing!

How else will we all be able to show off all our new gear we got over this holiday season! And in addition star parties are also a great opportunity for beginners to learn the night sky. Hosting a star party is a lot easier than you might expect. Just pick a date and location, and make an announcement in the Spectrum or via e-mail and people will come! Remember public nights at Beaver Meadow are the 1st and 3rd Saturday of each month from April to October.

Contact Janice and Jeff Gardner at 639-0866 or MMDAWG@AOL.COM to schedule your party or if you have any questions you might need answered.

Current star party schedule:

2003 Informal CSSP weekends (http://members.aol.com/Cherry_SpSP)
5/2-3, 5/30-31, 6/27-28, 7/26-27, 10/24-25 are the prime informal gathering weekends at CSSP this year

Black Forest Star Party will be held 8/29-31, the earliest it has ever been.

Thom Bemus wanted me to remind everyone to check out our new webpage at: www.madbbs.com/~bemusabord

By this summer the BAA's webpage will also be available at: www.UpStateAstro.org



Upcoming Meetings

The BAA's annual dinner meeting will be held on Friday March 14th at Banchetti's, 550 N.French Rd in Amherst. The banquet facility is on the north side of French Rd. just west of Sweet Home Rd. In addition to the usual good food, good company and raffle prizes, we will be hearing from Dr. David Chesebrough, President of the Buffalo Museum of Science. He'll be telling us about the museum's renovation plans for the Kellogg Observatory and the Gibson Science Hall.

On April 11th Rowland Rupp will present his thoughts on extraterrestrial intelligence. He'll discuss the evidence (or lack of it) for UFOs and take a look at the current state of our search for extraterrestrial intelligence (SETI). Join us at the April meeting to get answers to such questions as "What technological and statistical hurdles must be overcome if we have any chance of detecting intelligent life outside our solar system?" and "If UFOs are not real, why is the government wasting our money on SETI programs?"

MEETING CANCELLATION POLICY

If, for any reason, (most likely snow or ice storms), there might be cause for cancellation of the meetings of the B.A.A., tune your radio to either WBEN (930) or WGR (550). Also if Buffalo State College has been closed due to inclement weather, so will the meeting of the B.A.A be cancelled.

BEAVER MEADOW TELEPHONE

The telephone at Beaver Meadow, 716-457-3104, is for emergency use only at no cost. Local calls may be placed for a small charge - see the collection box by the phone. This

phone cannot make long distance calls.

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Observatory News by Bill Aquino

Observatory News

Things have been pretty quite at the observatory since the last issue of the Spectrum. We have really had only two clear nights in the last two months but on both nights a small group of members did gather at BMO to observe the heavens. Hopefully, the extreme cold and heavy cloud cover will give way to warmer temperatures and clear skies before too long so we can all get back to the business of observing.

Volunteers Needed

We are looking for volunteer public night speakers for the 2003 public night season. If you are interested please contact Bill Aquino at 731-9366 to sign up for an open date. There are currently only two confirmed speakers and many remaining dates to choose from. Dates are selected on a first come first serve basis, so if you are interested in a particular weekend sign up early. You can pick any available date from the list below that is convenient for you.

April 5 – Bill Aquino

April 19 - available

May 3 - available

May 17 - available

June 7 - available

June 21 - available

July 5 - available

July 19 - available

August 2 - available

August 16 - available

September 6 - available

September 20 – Roland Rupp

October 4 - available

October 18 - available



Public Night Moon Positions:

5 April 2003

Sunrise 5:51 a.m.

Sunset 6:46 p.m.

Moonset 10:47 p.m.

Phase of Moon: waxing crescent with 13% of the Moon's visible disk illuminated.

19 April 2003

Sunrise 6:28 a.m.

Sunset 8:03 p.m.

Moonset 8:17 a.m.

Moonrise 12:06 a.m. on following day

Phase of the Moon: waxing gibbous with 88% of the Moon's visible disk illuminated

3 May 2003

Sunrise 6:07 a.m.

Sunset 8:19 p.m.

Moonset 10:42 p.m.

Phase of the Moon: waxing crescent with 4% of the Moon's visible disk illuminated.

17 May 2003

Sunrise 5:51 a.m.

Sunset 8:34 p.m.

Moonrise 10:56 p.m.

Moonset 7:42 a.m. on following day

Phase of the Moon: waning gibbous with 97% of the Moon's visible disk illuminated

7 June 2003

Sunrise 5:37 a.m.

Sunset 8:52 p.m.

Moonset 1:52 a.m.

Moonrise 12:44 p.m.

Moon transit 7:37 p.m.

Moonset 2:17 a.m. on following day

21 June 2003

Sunrise 5:37 a.m.

Sunset 8:58 p.m.

Moonset 1:14 p.m.

Moonrise 1:53 a.m. on following day

BAA Annuals by Rowland A. Rupp

5 YEARS AGO - Five years ago, in March, we heard from John Grant, and in April our speaker was Greg Terrance. Grant spoke at what some still refer to as our May dinner meeting (now always held in March) at Classics V Banquet Hall where his topic was "Mars". I said spoke, but actually he had to shout as there was a rock and roll extravaganza in the hall next to ours, separated by a cardboard, or equivalent, partition. The following year's dinner meeting was held elsewhere. Greg Terrance's talk on CCD imaging was given in the more placid surroundings of Buffalo State College.

Gerry Cook was thanked for her donation of her late son's (Bruce) 3 1/2 inch Questar telescope to the BAA. Bruce had been *Spectrum* editor in the 1960s. Carl Milazzo appealed to members to contact him if they were interested in forming special sections for observing, astrophotography or just plain astronomical study. In decades past similar programs were actively attended.

Rowland Rupp wrote a review of Barry DiGregorio's book *Mars: the Living Planet* in which an argument for the discovery of life

during the 1976 Viking mission was made. DiGregorio lives locally, and was scheduled to be our speaker in May. The book may be worth your reading if this topic interests you. Also appearing in *The Spectrum* was an article on comets by Neil Dennis, more on a unified theory of the universe by Allen C. Goodrich, and an observation report on M76, a planetary nebula in Perseus, by the Perseus Group.

10 YEARS AGO - Dr. James Bix of Canisius College spoke at our March meeting; his subject was Giordano Bruno, the 16th century astronomer and cleric who was burned at the stake for expressing his unconventional views too vehemently. In April 1993, Dr. Carol Lucy from Jamestown Community College presented details of the work done at Greenbank National Radio Observatory by one of her students. Rowland Rupp spoke briefly on his remarkable adaptive optics photography, a topic quite appropriate for April.

President Bill Smith announced that the BAA had received \$6000 in funding from the Buffalo Audubon Society for the addition

(Continued on page 7)

An Evening with Saturn by Tom Bakowski and Bill Aquino

Planetary observing is one of the most enjoyable aspects of amateur astronomy but can also be one of the most demanding. Mars, Jupiter, and Saturn are usually favored for observing because they offer the amateur an opportunity to see a myriad of details. Although each of these planets is observable from Western New York for months each year they only offer their best views under the right conditions and then require some skill and experience on the part of the observer in order to see the finer details they have to offer. The best way to obtain the required skill and experience is to observe the planets over the years whenever outstanding opportunities present themselves.

There are some key factors to look for when considering planetary observing and the more of these factors that are in your favor the better your observing experience will be. Which factors are more important than others is an area of endless debate among amateurs but most will agree the following items all play an important role. The position of the planet in the night sky, the closer to the zenith the better. The position of the planet in relationship to the earth, the closer the better. Use the best quality telescope and eyepieces you can. Make sure the instrument is properly collimated and has reached equilibrium with the outside ambient temperature. Use a large enough instrument to resolve the detail you're interested in observing. Observe under the best seeing conditions possible. Take your time while you observe and take notes, this will actually help you to see more detail because it makes you think about what you are observing. The finest planetary details only snap into view for brief periods of exceptional seeing so patience at the eyepiece is required and will pay-off.

Saturn recently presented an outstanding observing opportunity for Western New Yorkers during mid December of 2002. At this time the planet was at opposition (the Earth was directly between Saturn and the Sun) and that meant it would be closest to Earth in our yearly orbit as well as above the horizon for the entire night. In addition, Saturn was at perihelion, its closest approach to the Sun, and thus even closer to Earth bound observers. Saturn has a nearly thirty-year elliptical orbit with the perihelion side 6% closer. So every 30 years Earth and Saturn get as close as possible. Mid December is close to the winter solstice, which places the ecliptic high in the night sky for mid-northern observers. Saturn also had its rings at maximum tilt as seen from Earth. The ring tilt occurs because Saturn itself is tilted about 27 degrees with respect to its own orbit. So earthbound observers see the topside and then the underside of the rings in a 30-year cycle

On the night of December 17th 2002, Saturn crossed the meridian at about midnight and was close to the zenith at an altitude of nearly 70 degrees. As luck would have it the skies above Western New York were clear that evening and a band of four adventurous club members including Tom Bakowski, Bill Aquino, Rick Pason and Bob Titran headed out to Beaver Meadow Observatory to observe the queen of the planets in what we hoped would be one of her best appearances. Although the planets were lined up very favorably for our observations the local conditions presented a challenge. The outside temperatures at the observatory were in the low teens, a nearly full moon was close to the planet, and it was Tuesday (a work night).

When we arrived at the observatory we rolled the big 20" DOB out onto the pad to begin cooling down the primary mirror to ambient temperature. Tom then placed his laser collimator (which produces one single beam of light - a "dot") into the focuser to check the collimation of the instrument. This step checks the alignment of the mirrors by seeing how closely the laser "dot" falls in the center of the primary mirror. Unfortunately, the laser beam was almost 3 inches off from the center of the primary mirror indicating we had some serious alignment issues to deal with before we could hope to observe. This is a huge amount of error for a fast scope of f/5. We decided to try and collimate the instrument right there on the pad where she sat. Normally in milder weather this would be just fine but tonight the air was bitter cold and it didn't take long before our fingers became numb and nearly useless. Something was definitely very wrong with the telescope, as we should have been able to collimate it in 10 minutes or so. Perhaps our brains were as frozen as our fingertips. In desperation, we decided to drag the 20" inside the observatory and give it a complete shake down. After our fingers warmed up enough to work correctly we found the problem, one of the three primary mirror adjustment screws was cranked all the way down and there was a similar problem with all three of the secondary mirror adjustment screws.

We loosened the screws on the back of the primary and then tightened them down "equal" amounts and repeated the same process for the secondary screws. It seems unusual that such an expensive telescope uses a secondary housing that does not have a "push-pull" type mounting system for fine adjustments. Basically, you have to hold the secondary mirror in position by hand and then crank all 3 screws down until it is positioned where you like it. We also cleaned the secondary mirror with a micro-fiber cloth to get rid of smudges. With a rough collimation now completed inside the warm observatory, we moved the 20" back outside into the freezing temperatures. We had to let the mirrors cool for a good two hours before we could do a final tweak of the collimation. Letting the scope cool down to outside temperature is absolutely crucial for observing high resolution detail on planets or being able to see fine detail in a galaxy's arms. In the summer, cool down time is relatively quick and unnoticeable, but in the winter cool down time for a large DOB can take hours depending on the warmth of the environment the scope is stored in. And unfortunately by dragging the scope into the building we allowed it to become quite warm compared to the ambient outdoor temperature.

Here is a summary of the steps we took to achieve collimation. Turn the secondary adjustment screws to set the tilt of the secondary mirror so it lined up correctly with the primary. This in turn helped move the laser "dot" towards the center of the primary mirror where it belonged. We then inserted a Cat's-eye (modified Cheshire) eyepiece into the focuser to fine-tune the alignment of the primary mirror. The Cat's-eye has a reflective ring on the backside of the eyepiece. When you look through the eyepiece while a red flashlight is shining down the end of the scope you can see the reflected ring. At the same time you can also see the black paper center-marking ring which sits in the dead center of the primary mirror. We then tweaked the tilt of the primary until the black paper ring was completely centered in the larger reflection ring as seen through the Cat's-eye collimating eyepiece. Once this adjustment was completed we had reached almost perfect collimation.

Our observations of the planet took place between 11:30 PM and 12:30 AM on December 17/18 and we took careful notes of all the details we could see. Our final drawing was created by combining the rough sketches/notes from both Tom and Bill and is shown in **Figure 1**. We started out using a 14mm UWA (ultra wide angle) eyepiece that provided a 178x magnification and a field-of-view of 0.47 degrees. With this low power, the Cassini, Encke and the Crepe ring divisions were all observed. Boosting the power to 284x (0.30 degree field-of-view) with a 8.8mm UWA eyepiece provided better views but was more subject to the unsteady seeing. With 284x Tom was able to hold the Encke division with direct vision as well as the Crepe ring while Bill with his older eyes struggled with the Encke division only seeing it occasionally using averted vision. We were able to see three different shadings (bands) on the planets surface, which were the South Polar Region, South Equatorial Belt Zone and South Tropical Zone. Bob reported seeing a swirling pattern in the Equatorial Belt Zone. The most striking feature of the planet was its three dimensional appearance nestled inside the rings like a child's marble. To provide better contrast of the planets surface detail we tried using a yellow filter and a light yellow filter (Wratten #12 & #8). It seemed that the #8 light yellow filter worked the best. To round out our observing we also tried different magnifications by using a 12mm Nagler (208x with a 0.39 degree field-of-view) as well as a 10.5mm Pentax (238x with a 0.27 degree field-of-view). We found the most useful magnification was at 238x from the 10.5mm Pentax, which has excellent contrast and is tact sharp out to the edges. On a scale of 1 to 10 Tom rated the seeing at 6.0 and Bill at 6.5, which wasn't great, but for seeing in the skies over Western New York it was above average.

While observing the planet we also saw six nearby point-like objects which we assumed were either the brighter moons of Saturn or possibly foreground or background objects (see figure 1). If these objects were in the foreground they would most certainly have to be asteroids and if they were in the background would most likely be field stars. While at the telescope we carefully identified their positions and relative brightness compared to each other with the intention of confirming their identity the next day. Figuring out what these point like objects actually were turned out to be an interesting study.

First we had to determine if they were asteroids in the foreground between Earth and Saturn. This was easy to check out thanks to the folks at the Minor

(Continued on page 6)

(Continued from page 5)

Planet Center. They have an Internet accessible “minor planet checker” program which when queried, returns the position and magnitude of any known asteroids in the vicinity of your target coordinates. We logged on to the site and entered the coordinates for Saturn on the night we observed it and the checker program returned two hits. Both were asteroids that happened to be near Saturn that night but both were very faint at greater than 18th magnitude. The limiting magnitude of our observation was just under 12th magnitude thanks to the nearby bright moon and snow covered meadow. Its been many decades since an asteroid brighter than 12th magnitude has been discovered so at this point we knew the six point-like objects we observed were not foreground objects. The Minor Planet checker can be accessed at;

<http://scully.harvard.edu/~cgi/CheckMP>

Now we needed to know the precise positions of the brighter moons at the time we observed. There is a pictograph published in *Sky & Tel* that shows the positions of the moons for an entire month as ribbons on a graduated scale. Using this tool you can estimate the moons positions at any time during the month but it is not very accurate in the north/south directions and does not list the moon Iapetus at all. There is a much better tool on the Internet accessible via the ALPO (Association for Lunar and Planetary Observers) website at;

http://ringside.arc.nasa.gov/www/tools/viewer_sat.html

Using the ALPO ephemeris generator we created a very accurate and scaled chart of the positions of Saturn’s moons as shown in **Figure 2**. The ephemeris chart matched our observations of the six point-like objects precisely. The final check was to overlay our ephemeris chart onto a reference photograph of the same patch of sky to allow us to identify any bright background stars that might be confused with the Moons. The overlay is shown as **Figure 3**. The background reference photo is from the Digitized Sky Survey and goes down to at least 19th magnitude. This is well past our limiting magnitude of about 12. These DSS reference photos are extremely useful for astronomical observing and can be generated for any patch of sky and of course can be accessed from

the Internet for free at;

<http://cadwww.dao.nrc.ca/dss/>

What’s interesting about figure 3 is that it shows two background stars (“B” and “C”) were very close to the moons Dione and Tethys that night and we did NOT see or record either of them on our field drawings. These two stars are listed in the GSC catalog at magnitude 11.9 in visual wavelengths. Using averted vision we were able to see (at least some of the time) the very faint moon Enceladus, which has a visual magnitude of 11.7. So our limiting magnitude for the observation must have been right about mag 11.8. It’s amazing we could even detect Enceladus at all considering its extremely close proximity to Saturn’s south pole (about 7 arc-seconds away) and the extreme brightness difference between Saturn at mag -0.4 and Enceladus at 11.7. Another interesting moon is Iapetus whose magnitude varies between 10.0 and 12.0. Our notes indicate we estimated it as the third brightest point-like object. We thought it was dimmer than Rhea (mag 9.7) yet brighter than Tethys (mag 10.3). Therefore it must have been near its maximum brightness of 10.0 on the night of our observation. If Iapetus had instead been near its dimmest it would have been beyond our limiting magnitude and we would have not seen it at all.

Although the planets were lined up very well for this observation we faced some formidable obstacles like extreme cold, a bright moon, and a lot of glare from the snow covered meadow. Our combined experience helped us to make some good decisions early on like collimating the telescope properly and allowing sufficient time for it to cool down. This certainly helped us tease some of the finer details from the planet we might not have seen otherwise. And finally, we were skillful in our observing by doing things like: using multiple high quality eyepieces and filters, waiting for Saturn to get near the meridian before we observed, observing at a leisurely pace, taking notes at the eyepiece, using patience and averted vision. We had a lot of fun with this observation despite a few difficulties and managed to get some memorable views of the most beautiful planet in the night sky. As is often the case when observing planets it was both enjoyable and demanding.

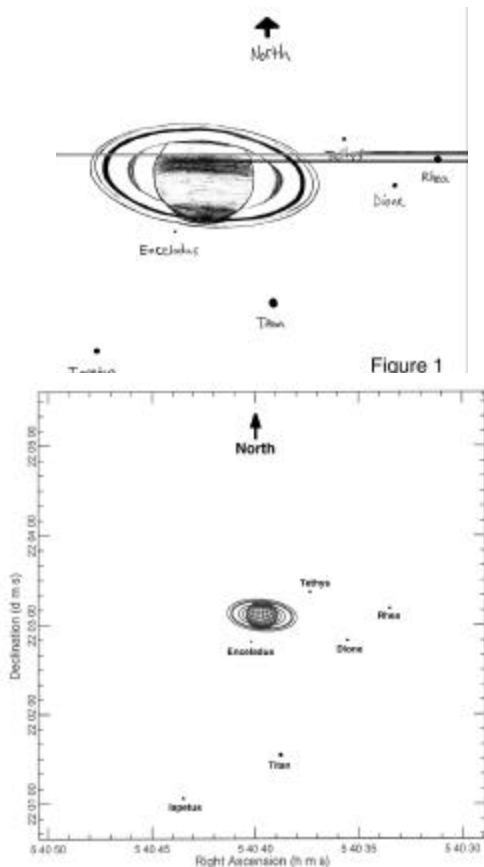


Figure 2

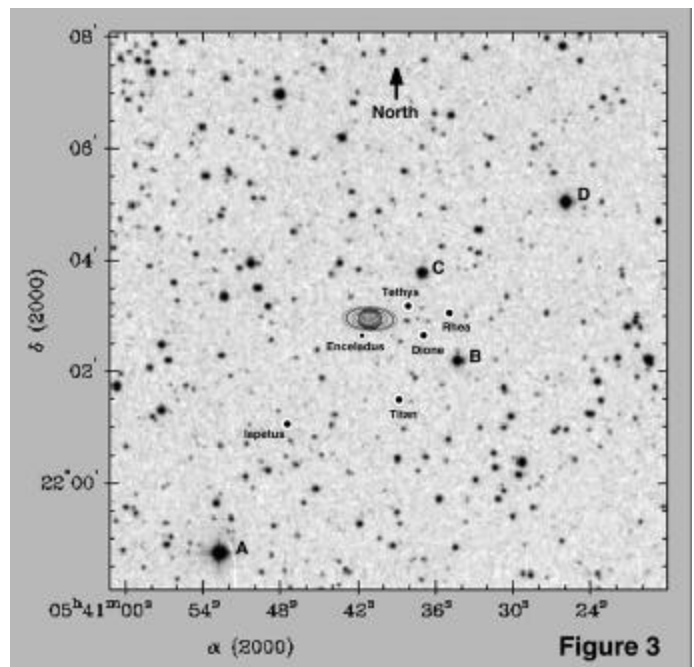


Figure 3

(Continued from page 4)

to BMO to house the new Obsession telescope, for which we had just received a \$5000 grant from the Buffalo Foundation. With our own fund raising, the total came to \$14,300. In time, the Audubon Society added another \$921 to complete the project. Substantial construction labor was donated by BAA members.

"The Fire God", a *Spectrum* article by Leslie Martin, told of the search for, and erroneous observations of, the intermercurial planet Vulcan. Bill Smith gave us observing hints in "A Survey of Globular Clusters", and Ed Lindberg's "Instrument Notes" covered chromatic aberrations. An article on "Lighting and Crime", always a controversial topic, pointed out that no definite conclusions could be drawn one way, or the other without more controlled study. Its author was unidentified, but the article first appeared in *Regulus*, the newsletter of Kingston Centre, RASC.

15 YEARS AGO - Jack Mack's March 1988 topic was on "The 1987 Supernova" in the Large Magellanic Cloud. Next month, Bob Hughes spoke on "Sounds of Astronomy in Short Wave".

In a *Spectrum* article, Leslie Martin compared the temperatures measured on the planets to those predicted from the laws of physics. Al Kolodziejczak continued his advice to new members that he started in the preceding *Spectrum*, while Edith Geiger began a profile on Dave Sepulveda. Ed Lindberg reported on several Instrument Section meetings that were photographic sessions at BMO. Ed also commented on matching a telescope's exit pupil to the iris of the eye, and on dark adaptation in general. Carl Milazzo reported having seen his 1000th deep sky object. He may have acquired a couple more since. The death of Al Ricutti, from a fire in his home, was reported. Al's interests extended beyond astronomy to include poetry, photogra-

phy and many others.

25 YEARS AGO - Richard Karlson was our speaker in March 1978. Karlson, an active member of the NFAA, spoke on Stonehenge. In April, Dr. Gunter Wessel from Fayetteville discussed "Stellar Evolution". The BAA had just completed its photographic exhibit at the museum and was looking forward to the Edward Lindberg Telescope Competition. *The Spectrum* featured "Astro-Math" by Phil Cizdiel in which he computed the apparent magnitude of globular clusters surrounding M31, "Constellations of the Ancients" (Antinous) by Darwin Christy, and astrophotos by Torn Desert. Edith Geiger's member profile was devoted to Walter Whyman.

35 YEARS AGO - In March 1968 we heard from Orrin Christy who spoke on "Solar Influence on the Lower Ionospheric Transmission of High Frequency Radio Waves". Having typed it, I wonder what it means. For April, Walter Whyman presented "Cornet Ikeya-Seki and Other Cornets". A news note reported that Margaret Rabe had terminated her "many years of service" as refreshment hostess so that from then on she could listen to the speakers. The BAA planned to host, on April 26, 1968, representatives of astronomy clubs from a radius of 200 miles to form an organization that became the NFAA.

The Spectrum featured Ron Clippinger who wrote on the German equatorial mount, and Kurt Erland who wrote on the then controversial quasar problem. Edith Geiger entertained us with an article on the antics of the public, ranging from Cleveland to Paris, caused by the passage of Halley's Comet in 1910. Her narrative ended in New Jersey, where a wicked scientist sent an explosive charge aloft in a balloon that terrorized the populace.

For Sale

Bogen 3047 Tripod Head w/ 2 Quick Release plates.
Hardly used, still have original box. \$50
Contact Rick Fusani at 878-7000 ext. 6036 or email
rfusani@upa.chob.edu

Meade 125mm Astro
Aluminum tripod, Electronic Controller
\$400
Jay Bowden 877-7959



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OMCON 80mm (Model 708) f/7 refractor complete with diagonal, 20 mm plossl eyepiece, *equatorial mount and tripod (EQ2). It has been used perhaps 8 times and is in mint condition. Asking price is: \$225 or b/o. If interested contact Don French at: 691-2187 weekdays after 7 PM. I have purchased a 90mm ETX-RA and do not need a second scope.

*Note: in process of moving, the counterweight and rod attaching to mount were lost. Counterweight with attaching rod is available from Orion for \$35.00 to include shipping and is reflected in the asking price of \$225.00 (still a bargain!!). Any questions let me know.

Celestron G-5 telescope (Celestron #11051).
Like New. Excellent condition.

The G-5 is a 5" Celestron C5 Schmidt-Cassegrain telescope with a 6x30 finderscope mounted on a CG-3 German Equatorial mount with a full size aluminum tripod. Includes the telescope, mount, tripod, 25mm SMA eyepiece, 1 1/4" Star Diagonal, visual back, and motor drive. The motor drive that is included is the basic DC Logic drive (Celestron #93515).

Asking \$550

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**Newsletter of the Buffalo Astronomical
Association Inc.**

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