NEWSLETTER OF THE BUFFALO ASTRONOMICAL ASSOCIATION INC.

The Spectrum

Volume 5 Issue 3	Late Spring / Early Summer	May / June 2003

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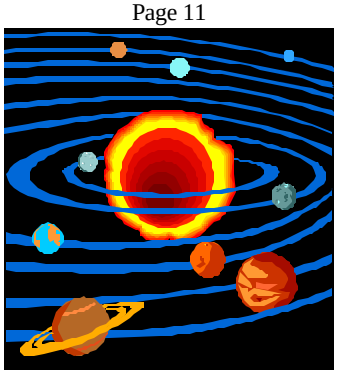

Archives Intact by Rowland Rupp

The BAA has a rich record of its activates since its organization in 1946 until the present, thanks to meticulous record preservation by past secretaries, treasurers and others who have kept track of minutes, financial records, correspondence, *Spectrum's* and memorabilia. A couple of months ago the Board came to the realization that no one was certain where these records were. Thanks to the help of a number of people, the material has been located and gathered up.

Steve Kramer thought Gene Witkowski had the bulk of the old records, and sure enough he did. Alan Friedman picked them up from Gene. Bob Hughes contributed material, apparently collected by the late Ed Lindberg. Lynn Sigurdson and Jack Mack also located and turned over records from their tenures as Secretary that had not yet found their way into the archives.

Since I was the one who inquired about the whereabouts of the archives in the first place, I got the job of gathering and inventorying them, which I've done. Thanks to Luann Szucs, who was Secretary a few years back, most of the old records were filed in neatly labeled folders, so all I had to do was record her labels. Original plans for Beaver Meadow Observatory from the '70s, a movie film of our Moon Watch program from the late '50s, a scrapbook of past BAA events, newspaper clippings and some papers pertaining to incorporation showed up.

We have wound up with five bankers boxes of BAA- history, even though in some cases I discarded duplicates. Eventually I will turn this material over to Beverly Orzechowski who has offered to be their custodian. She also has a "metal box", which I haven't seen, said to contain legal papers relating to the club's incorporation, exempt tax status and other matters. Just for the record - I keep the back issues /of BAA newsletters, which have been supplemented from Ed Lindberg's collection.

College of Fellows Award by Rowland Rupp

Bill Aquino and Bob Titran were inducted into the College of Fellows at the BAA's dinner meeting held March 14, 2003. Both had been members of the BAA for ten years and had distinguished themselves during that time. Bill is a productive member of the American Association of Variable star Observers, has served as Observatory Director at BMO for several years and has contributed to the study of gamma ray burst. Bob has been active in holding public nights at the observatory and has organized Astronomy Day programs for several years, an effort he has coordinated with the Buffalo Museum of Science. He has also served several terms on the BAA's Board of Directors.

Currently, active members in the College of Fellows are: Bill Aquino, Marilou Bebak, Larry Carlino, Darwin Christy, Edith Geiger, Bob Hughes, Steve Kramer, Jack Mack, Dan Marcus, Beverly Orzechowski, Rowland Rupp, Lynn Sigurdson, Bill Smith and Bob Titran.

No Achievement Awards were made this year by the College. Achievement Awards are based on significant accomplishments made in astronomy outside of personal or BAA activities.

Astronomy Diary (Continued on page 5)

Making room for some quality time with the night sky is a challenge every amateur faces. The endless heavenly parade of objects and events are "seeing limited" by an equally endless set of astronomical limitations – the weather, the seeing, obligations at work, time for the family, available money for ever larger and more sophisticated equipment and the sustenance of youthful vigor to lift the stuff and move it outside when all the above conditions are favorable.

On February 21, 2003 I packed several hundred pounds of astronomy gear and pointed my station wagon to the south for a 1200 mile journey to the Cedar Key Star Party. This event, the brainchild of our own Thom and Kat Bemus working together with the Florida Park Service, is not a traditional camp by your scope star party, but more of a freeform astronomy vacation. There are talks and public observing and time set aside for the amateurs attending to observe, but structure is minimal and the pace is personal and peaceful.

I grappled with demons and cold feet the night before I left. Was it right to cast off worldly responsibilities, ignore the battle cries of an impending war and leave my family to fend for themselves in Feb-

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BAA Web Site

Tom Bemus and Bill Smith put together a club web site at :
http://www.upstateastro.org/stars/baa.html

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:
June 13th 2003

President's Message by Joe Orzechowski

Spring has finally sprung. I should probably have typed that with one hand while keeping the fingers on my other hand crossed. It's been a long winter but now it looks like it's time for the less hardy observers like myself to dust off their scopes, binos and charts and start observing again.

If you're looking for observing ideas, how about Mars. This year's opposition of Mars will be the closest in 100,000 years. Mars will be only 34,848,700 miles from Earth on August 28th. For several days around that time Mars will be shining at mag –2.9 and will present 25.1" disk. Even though this is a significant event, please keep in mind that the previous "nearest" approach of Mars occurred in 1924 when Mars was only 1200 miles further away. While Mars' position in the sky won't be great (13 to 17 degrees south of the celestial equator during the weeks around opposition), it will be significantly better than the last opposition when Mars was 25 degrees south of the equator. There's also a total lunar eclipse on the night of May 15th. The partial phase begins at about 10pm EDT and totality begins at 11:15pm. Those of you who are up for a challenge can try to catch the final moments of a transit of Mercury that will take place (rain or shine) at dawn on May 7th. The last Mercury transit occurred in November, 1999. Dan Marcus, Tom Bakowski and I drove to southern Illinois just outside St. Louis to observe and video tape that event. For those of you interested in a bit of an astronomical adventure I would recommend heading for Cadillac Mountain in Acadia National Park, Maine.

Spring also means the start of our public nights at the Beaver Meadow Observatory. Bill Aquino and Paul Tabor will greatly appreciate any help you can provide. And you'd be surprised at how much help you can be out at the observatory on a busy public night. If you're not an observer but you're a people person, you can help greet our visitors and let them know what's what and who's who. If you have a flare for fund raising, you could make an occasional announcement about our willingness to accept donations. (Many visitors fail to notice the donation box in the dark.) If you like kids, come on out and help keep an eye on our young visitors and keep them amused while they wait in line to look through one of the telescopes. Or you could just come out to the observatory and watch and listen. No matter what you do, if you do come out to BMO, you will learn astronomy. It's unavoidable:

When I first joined the BAA I was intrigued by the prospect of being able to look through a 12" scope since I had a 3" refractor at the time. So, soon after joining the BAA I started driving down to BMO and hanging around Dan Marcus (observatory director back then) and some of the other regulars. I soon learned my way around the place and was able to set up the big scope for public viewing. I also learned that I knew a lot more about astronomy than the average public night visitor. I'm not boasting. I was just surprised that I could easily answer most of the questions posed by visitors and that people were actually interested in hearing the little I knew about telescopes, the Moon, planets and stars. I also learned a whole lot more astronomy hanging around the observatory. I moved up to giving presentations to our public night visitors and eventually joined the BAA's education program, giving presentations to children in schools and other organizations in the area. And all this began one spring twelve years ago. So why not come out to BMO for a public night and see what it's about. Who knows, you may end up as president some day.

Upcoming Meetings

May 9, 2003 – Extreme Astronomy
Joe Orzechowski will present some interesting facts and trivia about the farthest, the coldest, the smallest and the fastest in astronomy.

June 13, 2003 – NASA Programs
Join us for our last meeting of the year when Bob Hughes will discuss some of the ongoing NASA programs including the Space Shuttle, the International Space Station and current and upcoming missions to the planets.

The BAA meets at 7:30pm on the second Friday of every month except July and August. We meet in the Science Bldg. of the State University College at Buffalo on Elmwood Avenue. Meetings are free and open to the public.

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.

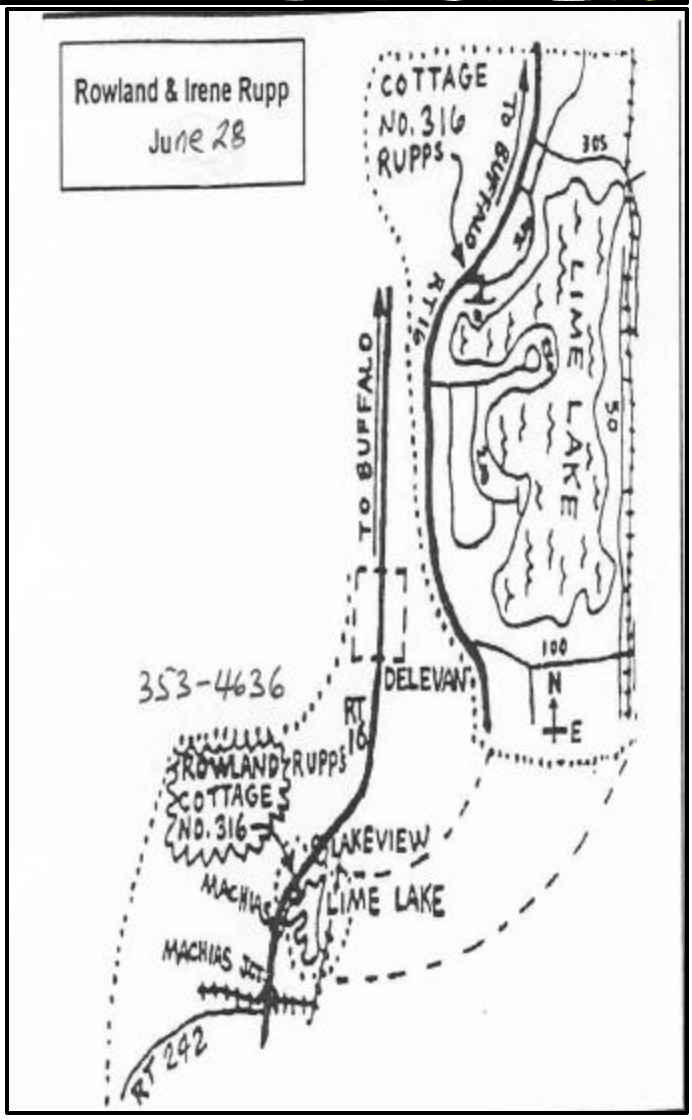
Contact Janice and Jeff Gardner at 639-0866 or MMDAWG@AOL.COM to schedule your party or if you have any questions you might need answered.

Current star party schedule:

2003 Informal CSSP weekends (http://members.aol.com/CherrySpSP)
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.

Lime Lake Star Party
Saturday, June 28th
1:00 PM - ?
Rowland and Irene Rupp
316 Martin Lots, Lime Lake
353-4636 (Buffalo 839 - 1842)
Bring a dish to pass
The Rupp's will provide soft drinks & beer, hot dogs & hamburgers.
(See larger map on the back page of this issue of *The Spectrum*.)



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.

Observatory News by Bill Aquino

The winter weather has finally started to give way to spring and activity at the observatory has begun to pick up as well. There has been a steady increase in clear nights the last two months and an increase in members signing into the logbook. Public nights season has resumed once again this year and we are all looking forward to a lot of great public nights in the months to come. If you are new to the club please make it a point to attend a few public nights this year to check out your observatory and spend some quality time with your fellow club members. In addition to public nights, there are usually at least one or two members at BMO on most clear nights that would enjoy spending some of their time observing with new members. Check the egroups for postings or call the observatory (585-457-3104) around sunset to verify if someone is available. The observatory is a great resource for new members, so take advantage of it.

There was a problem this past winter with the combination locks at BMO being very difficult to open due to icing up internally during the severe weather. Paul has replaced all the locks with new ones so this should alleviate the problem. The combination has NOT changed only the physical locks. The replacements have been reprogrammed with the old number. If you experience any problems with the new locks let the observatory directors know about it.

In an effort to boost circulation of our club's excellent library collection, half of the books and all of the VCR tapes have been moved to our meeting room at Buffalo State College. We are storing them in the lower portion of the cabinet (in the back of the auditorium) that houses the slide projector. It is just to your right as you enter the room. We are hoping that by making the materials more accessible to members they will take advantage of this club benefit and check out an item. As usual, if you do borrow something from the library collection, whether at the meeting hall or the observatory, please fill out a card and leave it in the box provided so we can keep track of where things are.

Volunteers Needed
We are looking for volunteer speakers for the 2003 Public Night season. If you are interested in volunteering please contact Bill Aquino at 731-9366. There are currently 8 dates still available. Dates are selected on a first-come first-serve basis; so if you are interested in a particular weekend, sign up soon. You can pick any "available" date from the list below that is convenient for you.

2003 Public Night Schedule of Guest Speakers
April 5 – Bill Aquino
April 19 – Paul Tabor
May 3 – Joe Orzechowski
May 17 – Bill Aquino
June 7 – Alan Friedman
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

The following are the moon and sun times for Public Nights July through October:

Saturday - 5 July 2003
Sunrise - 5:42 AM
Sunset - 8:57 PM
Moonrise - 11:46 AM
Moonset - 12:45 AM on the following day
Phase of the Moon on 5 July: waxing crescent with 34% of the Moon's visible disk illuminated.

Saturday - 19 July 2003
Sunrise - 5:53 AM
Sunset - 8:50 PM
Moonset - 12:04 PM
Moonrise - 12:16 AM on following day
Phase of the Moon on 19 July: waning gibbous with 65% of the Moon's visible disk illuminated.

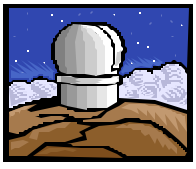
Saturday - 2 August 2003
Sunrise - 6:07 AM
Sunset - 8:36 PM
Moonrise - 10:50 AM
Moonset - 11:13 PM
Phase of the Moon on 2 August: waxing crescent with 22% of the Moon's visible disk illuminated.

Saturday - 16 August 2003
Sunrise - 6:22 AM
Sunset - 8:17 PM
Moonrise - 10:38 PM
Moonset - 11:55 AM on following day
Phase of the Moon on 16 August: waning gibbous with 80% of the Moon's visible disk illuminated.

Saturday - 6 September 2003
Sunrise - 6:45 AM
Sunset - 7:42 PM
Moonrise - 6:00 PM
Moonset - 2:57 AM on following day
Phase of the Moon on 6 September: waxing gibbous with 82% of the Moon's visible disk illuminated.

Saturday - 20 September 2003
Sunrise - 7:01 AM
Sunset - 7:17 PM
Moonset - 4:39 PM
Moonrise - 1:25 AM on the following day
Phase of the Moon on 20 September: waning crescent with 32% of the Moon's visible disk illuminated.

Special Thanks
To Club Member Tom Bakowski for cleaning the observatories eyepiece collection. This was a much needed task and is very much appreciated.



Astronomy Diary / Cedar Key Star Party 2003 by Alan Friedman

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ruary in Buffalo? And could I make it alone? Last year I had made the 20 hour trek with buddy and BAA member Peter Proulx – but Peter could not make it and last minute attempts to find a travel companion were unsuccessful. The midnight worries faded though, with the sight of my stuff packed neatly by the front door and encouraging words from my wife convinced me to stay with my plan.

Deciding what to bring could fill an essay by itself. I had to make choices and consider my observing goals. Scopes must be set up and taken down each night. The stable seeing conditions of Florida were my holy grail and the planets were to be my target. And, by luck of the draw, I had just purchased a rare and reputedly superb planetary telescope – a 10" maksutov cassegrain made by Astro-Physics. This scope, which might never be able to show what it is capable of under WNY skies, was clearly the one to bring. And since this was astro-vacation and astro-photography is work (if not torture), I left all the imaging stuff at home. The final selection of cases held the 10" mak/cass, my 4" refractor for quick set-up and solar observing, a portable pier and tracking mount, solar filter, eyepieces – counterweights, a battery and tools. The big scope sat in the back seat, and everything else fit nicely in the trunk. A stop at Wegmans for provisions and visit to the bookstore for some books on tape and I was off.

The drive was a Zen experience. It took three days down and two days back – just under 20 hours each way. As an expatriate New Yorker, I had driven 400 hundred miles many times and always knew this to be the limit of endurance for human beings and autos in one revolution of the earth. But once I put this limit behind me, the subtle drama of the changing states and rising temperatures kept me going. NPR and the books on tape were a big help too. For future reference, the collection of short humor writing from the New Yorker (James Thurber to Steve Martin) turned out to be a far better choice than Stephen Hawking's Universe In A Nutshell. I stopped in West Virginia, where I found three feet of recent snow and 120,000 residents without power – detoured to Hilton Head SC for an 80th birthday dinner with my mother in-law – and then made the short hop to Jacksonville and across Florida to Cedar Key. The memory of two days of continual rain was erased by the arrival of crystal clear skies and warm temperatures. This was looking promising.

The last 50 miles from Gainesville to Cedar Key allowed me to decompress from the bail bond storefronts and smoked mullet shacks of north central Florida. The old highway, a slow two lane road with narrow shoulders bounded by pristine Florida scrub preserve and ending in a chain of marshland causeways that connect Cedar Key to the mainland, is perhaps the single reason that development has not yet secured a foothold and destroyed the old fashioned simplicity of this area. To find a chain hotel or restaurant you have to drive an hour.

I arrive at the Island Place at 4:00pm. It is almost seventy, the skies are clear and it is beautiful. I check into my spacious accommodations and join the other amateurs who have gathered with Thom and Kat for a quick meeting to outline the week's events. We number perhaps two dozen at this point - many of us returning from last year. There is Gary, who has journeyed from London, and Michel, a retired French paratrooper, solar observer and altogether colorful character who traveled on his own from northern Ontario. The furthest flung arrive later in the week - a group from Germany whose rented motor home was there wherever we turned – kinda like Where's Waldo. And then there was a charming elderly couple from Georgia with gracious manners and beautiful southern accents who drove down with friends and were forced to leave their 20" Obsession in the garage! All in all, a great group of people – diverse and friendly.

Conditions remained excellent for the first night, which was set aside for the attending amateurs. The observing field is on the site of an ancient native settlement called Shell Mound. The gulf surrounds us – and the vista is great - as long as you are mindful of the tide markings and keep your feet and your scope on dry land through the night. I arrive later than I had wanted and move quickly to set up a scope that I have never used before on a mount that is surely too small to carry it. Matt from New Hampshire is completing his set-up of an Astro-Physics 6" on a 900 goto mount and I find a space next to him for the 10. We wound up observing next to each other and swapping views most of the week. The big scope (which looks something like a really nicely made hot water tank with a dew shield) is close to 40 pounds fully dressed and my 600 mount is (conservatively) rated for 25. If it works at all, it will be pushing the edge of the envelope. But with 32 pounds of counterweights and a very careful balancing job the mount tracks and appears stable enough for visual astronomy. A first glance through the eyepiece shows a very warm mirror struggling in cooler air, so I remove the back of the scope to expose the mirror to the night air and turn the fans on high to assist in cooling the optics while I polar align.

The second look was much more rewarding. The transparency was excellent and the seeing quite good (6.5 - 7.1). This evening would turn out to be the best observing conditions of the week. First light was given to M42. The 10" is a different instrument than a fast refractor and would take some getting used to - packing 3700mm of focal length into a 26" tube. With a minimal baffle to allow a small (23%) central obstruction it is optimized for observations at high magnification. A 22mm panoptic provided 170x and a view that showed only the trapezium area of the nebula but with great contrast. Theta Orionis showed 6 stars immediately with E and F as tiny pinpricks, steady and constant. The A/P 6" showed 6 stars also in a wider field of view. I turned the scope to Saturn and put in the binoviewer. With 24 Brandons at 300X the

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planet showed detail that I had never seen before. Many different brightness bands could be detected in the A and B rings. The C or crepe ring was plainly visible. The B ring showed the Encke Minima and shading at both ansae. The planet's cloud bands had defined edges and hints of structure. The polar cap appeared as a greenish yarmulke on a golden planet. The seeing in Florida, even when it is average is better than almost any night in WNY. On good nights, a large scope can perform to the limits of its optical potential. Observing in these conditions with the Astro-Physics 6" refractor and 10" mak/cass was astronomical heaven.

Saturn was great but Jupiter was to become the most memorable object of the night. Io had begun a transit and its shadow was a very small but distinct dot moving across the face of the planet. It was constantly visible. Io could be followed in the 10" almost the complete duration of its transit, though I did lose it at one point in the central region and had to wait for it to reappear as a white spot against the darkened limb. Here the 6" refractor was no match for the 10. The cloud belts showed incredible detail. The seeing had declined a little but the red spot showed structure and the rift in the SEB could be resolved into four or five white ovals. The NEB showed dark blue filaments swirled into the central region. I borrowed a chair from Matt and sat for twenty minutes as Io and its shadow crossed the planet. Europa and Ganymede were well defined disks with a very obvious difference in size. As Io prepared to leave the planet for the blackness of space, the sensation of depth in the binoviewer was unbelievable. I had to remember to breathe. If the clouds came in for the rest of the week I could have gotten in my car for the drive home a happy camper.

Matt and I were the last to pack up at about 2:00am (solar observing was scheduled for 9:00 the next morning). Before leaving I set up the 4" refractor for a quick look at a rising Omega Centauri. Only 7 degrees up, it appeared a diffuse white ball – big and bright but unresolved. Unfortunately, the horizons were murky the rest of the week – this was to be the only view we had of this showpiece southern object this year.

The solar observing site was the jetty outside the Marine Research Center, which offered a great eastern horizon and very steady views over the marshland. There were four or five scopes set up providing both white light and H-alpha views. The daytime seeing was excellent – and though the solar activity was modest, we had very detailed views right through midday. Many visitors turned out for the first day and there were lines at each of the telescopes. I felt the shadow of a huge gull circling 20 feet over our heads – wondering, I guessed, what all these humans were doing outside without a single bag of fries – but a quick look up showed it to be a magnificent bald eagle. The eagles and osprey would become good alternate subjects as the clouds limited the solar opportunities later in the week.

The public star party that night was packed with visitors and at least 20 telescopes – many dobs, several Mag One portaballs, and the 2 A/P scopes. This night proved frustrating for me. Though I had parked in the shade most of day, the scope was very warm and it needed a lot of cool down time to reach equilibrium. I tried to duplicate the binoviewer experience of the night before for the public, but as I rotated the BV around to fit the observer, the mount motors would stall and Jupiter would glide quickly out of view. I spent most of the night tinkering with my set-up while Matt slewed the 6" effortlessly around the sky showing messier objects to the oohs and aahs of dozens of visitors. The site for the public nights is located at the historical museum and was much improved from the year before – street lights were off and the Milky Way was nicely visible. Green laser pointers were everywhere. I finally managed to blow off my telescope angst and enjoy the chance to chat with the Cedar Key residents and visitors who've turned out. At the end of the night, with scopes stowed, we studied an unfamiliar part of the southern sky and wonder if it might be possible to see the Vela supernova remnant? Maybe tomorrow.

The week gave us three clear nights before the clouds and rain rolled in. The last good night offered a second chance to watch a Jovian moon transit – this time Europa. Seeing these two transits in the space of two days gave a good opportunity to compare their subtle but discernable differences – the slower orbital speed of little Europa which is much harder to perceive against the planet– visible to me only near the limb at each side. The red spot showed much color and structure – with a salmon central knot visible against a lighter cantaloupe background. The view was extraordinary and many of the amateurs walked by to have a look through both A/P scopes. Matt attached his camcorder afocally with an eyepiece adapter and recorded video of Jupiter with excellent detail. I tried hand holding my camcorder to the eyepiece for a souvenir of Jupiter to bring home. A rainy afternoon later in the week gave me several hours to work with the video and produce a composite image of the planet with a transit of Europa painted in – with modest success.

The nightime observing ended with enough time for sleep so unlike a traditional star party, we were functional during the day. I made visits to nearby nature preserves – went jogging, talked, cooked and ate. Cedar Key, with its succesful aquaculture industry, is a mecca for the clam lover. I bought a huge bag and spent several mealtimes eating variations on linguine with vongole –served al fresco on my terrace overlooking the gulf. Although at times I missed having a dining companion, I mostly enjoyed the tender balance of peacefulness and loneliness. There was ample time to get to know some of the other amateurs and shop the mobile store of 20/20 telescopes – a startup venture of a couple of friends (one an optometrist) who stopped by on their slow odyssey back from the Winter Star Party and stayed the week . Before turning in each night I religiously recorded the day's observations and experiences in my diary.

On Thursday, we gathered for a picnic fish fry prepared for us by the park rangers. We ate fresh sheepshead, took some group pictures and exchanged email addresses. The clouds and rain were to stay for the balance of the week and public night on Friday which featured an inspirational slide show and presentation by Thom, was an indoor event only.

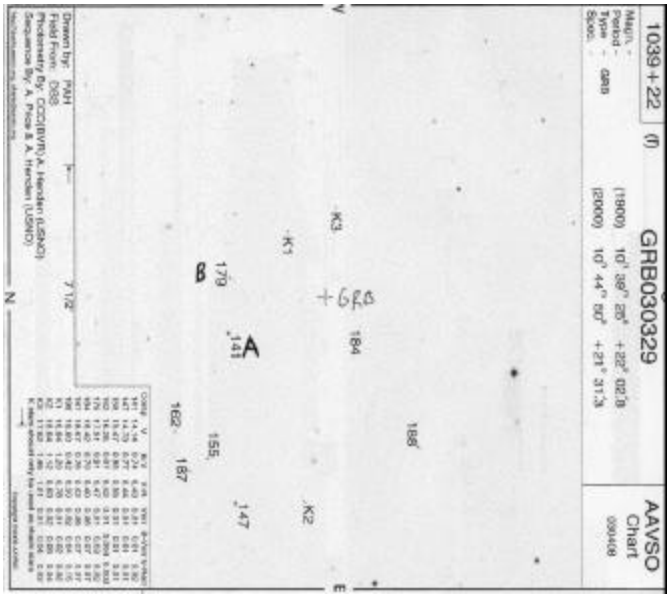
Leaving Cedar Key early Saturday morning I passed three buzzards on the side of the road breakfasting on an armadillo. The drive home became my penance for a hedonistic week of indulgence in my hobby. The twelve hours to Beckley WV was driven in constant torrential rain with brief respites of drizzle. At least it was too warm for snow. I avoided thinking about work and world events and followed the homages on NPR to Fred Rogers, who died during the week and was clearly a man who was loved and admired by many. As I listened, I looked forward to getting home, to seeing my wife and kids and to making reservations for Cedar Key 2004.

Alan Friedman

Visual Observation of GRB 030329 by Tom Bakowski

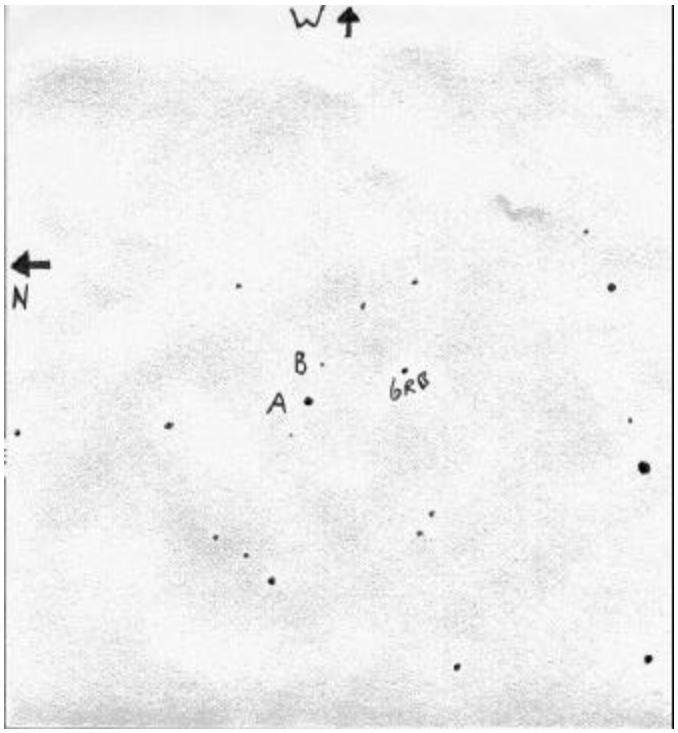
On the morning of 3/31/03 (Monday 1:09am-2am) I tried to visually observe GRB 030329 and I am confident that I glimpsed an elusive GRB. It is quite a rare occurrence to visually glimpse a GRB; therefore, the following is an account of my chance encounter with GRB030329.

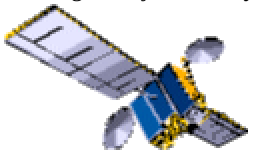
The skies started to clear up in Buffalo around 11pm on Sunday, March 30th. Realizing the skies were clearing out nicely and that there was no moon in the sky, I made my way out to BMO (Beaver Meadows Observatory) to do some observing.
I arrived there around 12am, finding Bill Aquino in the process of imaging the GRB. He informed me that this was an unusually bright one of around 16.5 magnitude, well within the reach of the club's (Buffalo Astronomical Association) 20" DOB. I knew then and there that my project for the night was to try and catch a glimpse of this GRB.



The ever-helpful Bill quickly showed me his charts which positioned the GRB in Leo 10h44m50s +21*31'.3, just past the meridian. I noticed that conveniently, there was a bright asterism of stars near the position of the transient. Using our club's 20" Dobsonian Obsession with a 17" Nagler at 147x, I pinned down the exact location. Centered on star "**A**" (refer to sketch), I knew the GRB should be off to the right. I then sketched all the stars in the surrounding field visible at this low power. The GRB was not visible at this magnification. I then increased the magnification to 284x with an 8.8 UWA (ultra-wide angle lens). At this magnification I was able to detect a few more faint stars in the surrounding field.
Armed with Bill's chart, I stared at the location using averted vision. The transient flickered in and out as the seeing changed. I boosted the magnification to 333x with a 7.5 Takahashi LE, which was the most useful magnification-I was able to consistently glimpse it for well over 30 minutes. It was visible 30 % of the time as the seeing changed. The visual magnitude at the time I observed this was 16.71, which Bill Aquino calibrated later in the week from the image he captured that night.

The accompanying sketch is a cropped tracing of my original field drawing (note, that both charts for comparison are oriented like the view through the eyepiece). Looking at the sketch is star "**A**" (Mag.14.1). Above "A" at 1 o'clock is star "**B**" which is the dimmest star I glimpsed at a visual magnitude of 17.9. I glimpsed this star "B" a few times (about 10 % of the time). I also consistently glimpsed the star or galaxy below "A" at 7 o'clock. This one appeared a bit brighter than "**B" and** was a little easier to see (the actual magnitude for this star was not given on the chart). Not knowing any of the magnitudes at the time, I discussed with Bill that night, that if the GRB is brighter than the star above "**A**" ("**B**") and brighter than the star below "**A**" at 7 o'clock**,** I know I definitely **viewed** the GRB since the GRB was brighter. I sat on my sketch for a week until I was able to examine the AAVSO "f" scale photometry chart. Seeing that the GRB was much brighter than the two stars above and below star "**A" confirmed** to me that I consistently glimpsed GRB 030329. Trying to push the limits of an optical instrument is a fun and challenging process but I was rewarded with seeing an object seen by few people.





BAA Annuals by Rowland A. Rupp

5 YEARS AGO - Bill Smith led off the May-June 1998 *Spectrum* with an editorial in which he commented on articles he had seen extolling the virtue of providing kids with "hands-on encounters" with nature. He observed that BMO provides that kind of encounter. Coincidentally, Bill Aquino listed the public observing schedule for the coming season. Public nights attract lots of kids.

Our speaker for May was Barry DiGregorio whose topic was taken from his recently published book, *Mars: The Living Planet.* The BAA's new member, Carl Klingenschmitt, was featured in June. He spoke on "Artificial Earth Satellites".

Membership Chairman Joe Orzechowski noted that we had 111 members as of April 1998. Bill Aquino, Bob Hughes and Rowland Rupp had recently attended the kickoff meeting of the Buffalo Audubon Society that, in time, led to the expansion of the Fred T. Hall building at Beaver Meadow. Astronomy Day was scheduled for May 2nd at BMO. Tom Bemus's article on rich-field observing addressed both binoculars and telescopes.

Observation reports abounded. Fred Price wrote about his observations of the "Lunar Formation Rutherford", while Rowland and Irene Rupp reported on their observation of the solar eclipse viewed aboard ship in the Caribbean. Bob and Laurie Titran and Dan and Melissa Marcus reported their eclipse observations – same eclipse, different ship. We had a series of observation reports from Bill Halbert, the BAA's operatic talent who was then residing in Germany. Has anyone heard from him recently?

10 YEARS AGO - Dr. Dave Toot spoke at our May dinner meeting on solar research being conducted at Alfred University. Melissa Marcus arranged the dinner. In June we had a show in Buffalo State's Ferguson Planetarium entitled "LEGENDS: Greek Mythology Brought to Life". Who gave it - Art, Jack, Fred?

Ed Lindberg's "Instrument Notes" covered the problems early telescope makers had with "blurring" as a result of spherical aberration, and the enormously long focal lengths ("approaching 200 feet") used at first to reduce the effect. Bill Smith was the subject for Edith Geiger's "Profile". An extensive report on observations of globular clusters and techniques for viewing them appeared in *The Spectrum,* including a list of about 100 that can be seen from our latitude. Although the article is written in the first person, I can't find the author's name anywhere. Was it Bill Smith? Luann Szucs's cartoon contemplated the fate awaiting the Galileo space probe should it turn out Jupiter is inhabited by probe-eaters.

15 YEARS AGO - Our 1988 May dinner meeting was held in Moot Hall on the Buffalo State campus, thanks to Fred Price's coordination. Trudie Brown entertained us with "The Stars for Great Gran-Dad". In June, Ron Mauer of the Elmira-Corning Astronomy Club spoke on "Mars".

Fred Price contributed an article, "The Lunar Ring Formation Catharina", to *The Spectrum,* while Paul Warms wrote on the importance of maintaining a log when observing. "Planetary Temperatures" was the second half of an article by Leslie Martin dealing with the reasons temperatures measured on the planets differ from those calculated. Al Kolodziejczak continued his series on "Advice to New Members", and Edith Geiger completed her profile on Dave Sepulveda. Carl Milazzo provided the lone observation report.

25 YEARS AGO - We had a "panel of experts", composed of Ernst Both, Larry Carlino, Darwin Christy, Edith Geiger, Ed Lindberg and Jack Mack, who were assigned the task of answering anything the rest of us could think to ask. For June it was reports and elections - no talks were scheduled.

A *Spectrum* article, "Periodic Variable Stars", covered the history of these frequently observed objects, and our modern understanding of their nature. Too bad it was anonymous! Darwin Christy wrote on the "seeing" during 1977 at his home observatory, "Honey-House". He could make out fifth magnitude stars on 37 nights - only ten percent of all nights. He hoped 1978 would prove to be better. Darwin also wrote (as he often did) on meteor showers expected for the next couple of months. Rowland Rupp listed the fourteen past presidents of

(Continued on page 10)

Spy and Tell by Edith Geiger

- Judy Heubel has an extraordinary hobby. She is a movie enthusiast, and attends the theaters regularly.
- Irene Rupp was in Salt Lake City recently, where she visits the Mormon Library frequently to further her research on the family genealogy.
- The Jack Mack family never lacks for things to do. Daughter, Alice, is an editorial assistant in a New York publishing company. Son, Jack, who attends Case Western Reserve University in Cleveland, is a double major in Music and Psychology. Jayne has many talents and is now taking voice lessons. Jack and Jayne have been doing their exercises with enthusiasm, but to quote Jack, "they are still getting older".
- A report on two of our members who shall remain nameless: they were victims of the Buffalo Police ticket extravaganza (MB and RH).
- Sigurdson's are always busy. Ryan is on the hockey school team and travel team. Lynn and daughter, Hannah, are outstanding figure skaters. Hannah placed second in the Amherst Invitational in November. Lynn and Hannah plan to compete in the Niagara Invitational in March. Wade is in his second year as president of the North Buffalo Hockey Association. Lynn went back to Winnepeg last summer to celebrate Lynn's grandmother's 99th birthday.
- Roland Rupp is planning to teach basic astronomy at the Arcade Center of Genesee Community College in the fall semester.
- Bob Hughes is searching the internet for information on any connection between global warming and solar activity.
- Ralph Green retired from Bethlehem Steel twelve years ago, after working there for 42 years. His retirement is a joy with myriad of things to do. He finds a delight as a fly fisherman, and is also a fine artist whose favorite medium is pastels, though he works with oils on occasion. Among other things, he has a special interest in fossils, and goes to Penn-Dixie Quarry on Bayview Road in Hamburg, and also enjoys the telescope that is there. These are only a few of the many riches he finds around him every day.
- Our president, Joe Orzechowski, and our treasurer, Beverly Orzechowski, have formed yet another joint venture company in Buffalo. The Eastman Machine Company, and Niagara Systems and Software, Inc. are pleased to announce the formation of Eastman Niagara Systems, Inc.
- In the Sunday Buffalo News of March 16 a photo of Jim Lehmann appeared which was taken at the Hamburg Town Beach with his telescope viewing the rising moon.

Happy Springtime,
Edith

Equipment Review - Orion Apex 127 Makustov-Cassegrainian by Lawrence Carlino

The Maksutov telescope, from its brilliant 1944 design by Dimitri Maksutov through its commercial adaptation by Questar, has almost always been considered a premium-quality instrument, with prices to match. But beginning with the introduction of the Celestron 90 and the extensive Meade ETX series, improvements in optical technology and fabrication have moved these desirable scopes into the mainstream of price and availability. The Maksutov-Cassegrainian, with its long focal length, traditionally sharp optics, short tube, and light weight is a natural for observers "on the go" or with limited storage space.

The introduction of the Apex and StarMax series of Maksutov-Cass telescopes by Orion, a little over a year ago, tantalized amateurs with the hope of obtaining a premium instrument at bargain prices. These Chinese-made scopes are made to Orion's specifications and promise to deliver, with a "no frills" philosophy: quality optics, rugged construction, and value for the dollar. But do they measure up to the advertising claims?

First Impressions

Already owning a suitable equatorial mount, I ordered the Apex 127 version of the telescope, the optical tube assembly only. With the optical tube came a dovetail-mounted 6x26 erect-image finderscope, a 45 degree terrestrial diagonal, a 25mm Plossl eyepiece, visual back with photo adapter threads, and a very nicely made soft padded carrying case to accommodate the tube and related accessories. The tube itself is finished in an aesthetically pleasing deep-red metallic finish. The front cell housing the meniscus front lens and rear cell are contrasting dark gray cast aluminum. The 15" long OTA weighs only 8.6lbs. This is clearly a very attractive and well-built instrument. I mounted the optical tube on a Celestron CG-4 equatorial, a unit almost identical to the AstroView mount supplied with the StarMax version of the telescope. This proved to be a sturdy combination with both reasonably light weight and more-than-adequate damping. For those who require an even sturdier configuration, the beefy SkyView Pro equatorial is offered with either single or dual-axis drives, but at a substantially higher price.

Optical Performance

When the winter snows came to a temporary halt, I attempted to observe through some fleeting "sucker holes" in the perpetual cloud deck - and the results were both surprising and delightful. With a long f/ratio of f/12.1 and a focal length of 1540 mm, the little Apex provided some very fine views of Saturn, tight double stars, and the few deep-sky objects I was able to observe. Saturn, at a magnification of 118x with a 13mm Nagler T6 in the drawtube, was very sharp and solid. The Cassini Division was easy to spot and well defined as was the shadow of the planet on its rings. Equatorial belts and the dusky polar area on the planet's globe were nicely discernible as were moons Titan, Rhea, and Iapetus - all in spite of high-altitude cirrus that marred the view somewhat. Subtle gradations in contrast provided an image that reminded me of the view in a good 4-inch achromatic refractor, but with no false color.

Castor, a good test of telescope resolution and image quality, was quite impressive with the Apex: both major components were surrounded by clean, symmetrical first diffraction rings at powers of 118 and 171x with fainter outer rings coming and going with variations in seeing conditions. Plenty of dark sky between the stars made the split both easy and satisfying. Inside and outside of focus, stellar images were nicely symmetrical and similar, but not identical in character. Triple star Iota Cassiopeiae also resolved well, with the closer, fainter companion nestled just outside the primary star's first diffraction ring. Overall image quality, sharpness, and contrast were similar to that of the Celestron 5 that I owned some two years ago. If anything, the little Orion scope was better than the "tried and true" Schmidt-Cass.

Drop Test!

When Orion advertised the construction of the Apex 127 as “no compromise,” an allusion to the scope's solid all-metal parts, I was content to believe them. But a sheet of ice on my driveway, covered by a sinister blanket of newly fallen snow, sent me into a free-fall with the telescope and mount crashing heavily into the blacktop. The finder scope and dovetail bracket were sheared off, as was the star diagonal, and I feared major damage to the telescope. After retrieving some tiny parts and uttering numerous internal profanities, I attempted to assess the result and salvage what I could.

Surprise! The less- than-a week-old instrument sustained some minor blemishes to the tube and cast aluminum end cells, but the finder, its bracket, and star diagonal re-attched without a problem. Optically, the scope had lost its perfect factory alignment, but three collimation screws recessed in the rear cell and adjustable with a small hex wrench made re-collimation possible in about 20 minutes. This "push-pull" arrangement was not easy to use, but it did restore exact optical alignment. Obviously, I was very pleased with the Apex's resiliant nature; a lesser telescope might well have been destroyed.

Lazarus

With the scope fully functional once again, I was able to catch some fleeting glimpses of the moon a bit after first quarter. The Apex revealed some sharp, high-contrast detail, including the chain of tiny coalesced craterlets near Copernicus. A few days later, the radial streaks and terraced walls of Aristarchus and "cobra head" of nearby Schroter's Valley displayed an excellent level of detail at 118 and

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171x. Magnifications of 250x were handled nicely without evidence of image breakdown.

Jupiter, when it achieved reasonable altitude, was likewise impressive: the equatorial belts were clearly defined as were the polar areas, red spot hollow, and resurgent Great Red Spot. The four Galilean satellites were recognizable from their differences in size and coloration. Clearly, this telescope, though quite small, is capable of delivering some excellent lunar and planetary views. Contrast, although good, was (as one would expect) not up to the level of a quality 4-inch APO refractor such as the Borg 100ED or Takahashi FS-102. But the $399 price of the Apex puts the matter into perspective.

The Deep Sky

Although advertised as a 5-inch telescope, the Apex127 has an actual clear aperture of some 4.7", a result of the effective optical diameter of the front meniscus lens. Light throughput, however, gives the scope a touch more light grasp than my 100mm Borg ED refractor. Images in the Apex are very slightly brighter, something that manifests itself in deep-sky observing. At 51x, about the lowest power obtainable with the long-focal-length instrument, a 30mm Celestron Ultima series eyepiece provided a beautiful vista of the Orion nebula. Faint green "wings" reached out from the body of M 42, and the four stars of the Trapezium were sharply defined. Effective internal baffling in the Apex made for a dark sky background and excellent contrast

Galactic star clusters such as Auriga's M 37 and Canis Major's brilliant M 41 looked much like a fine sprinkling of star dust on a velvety background. M 35 in Gemini was also attractive, with its companion cluster NGC 2158 visible as a ghostly patch in the same field of view.

Galaxies were not particularly bright with the scope's modest aperture, but the relatively low-in-the-sky M 81 and M 82 did display hints of detail at medium magnifications. Again, the views were reminiscent of those with a good 4-inch refractor and, perhaps, similar instruments such as the Celestron 5 and Meade ETX 125. Although no bright globular clusters were accessible in the winter sky, I suspect that the Apex would nicely resolve the brighter ones, at least partially.

This, overall, constitutes very satisfying deep-sky performance with only one down side: the narrow low-power field-of-view of just one degree precludes full images of large objects like the Pleiades and Andromeda galaxy complex. For that purpose, a short focus small refractor works better.

Mechanics

In addition to the telescope's impressive ruggedness, a few notable features add to the telescope's "better-than-expected" aura of quality. The moving-mirror focusing knob on the back plate, in the tradition of Celestron and Meade SCT's, moves with smooth precision with no detectable image shift. Feedback and effort seem just about ideal. The finder scope is attached to the main tube with a dovetail bracket and can be removed in a matter of seconds - a nice feature. Additionally, the aluminum stalk holding the finder is quite tall, allowing easy access to both main scope and finder without incurring major facial damage. The finder is aligned with an ingenious spring-loaded "x -y" two-axis set-up that makes the process quick and easy. Unfortunately, the 6x26mm erect-image finder itself is too small for astronomical use, though it does have decent optical quality. An upgrade to a red-dot pointing device or 6x30mm finder is recommended.

The Apex optical tube has a rather long aluminum bracket attached to the bottom of the scope to accommodate a variety of mounting options. Several threaded .25" and metric holes allow mounting to a sturdy photo tripod for terrestrial or low-power astronomical use, and to a number of medium-weight equatorial mounts such as the Celestron CG-4 or Orion's own AstroView.

In Summary

The maxim "you get what you pay for" almost always applies to the purchase of a telescope. But in the case of the Orion Apex 127 and its equatorially mounted brethren, I'll have to make an exception. At $399 (currently on sale for $349), this little Mak-Cass strikes me as a genuine value. With optical performance approaching that of a good (and much more expensive) 4-inch APO refractor, rugged construction, and obvious portability, it's the real deal. Just don't expect the absolute imaging perfection of a Takahashi or AstroPhysics scope.

For astronomical observers, the StarMax 127 with its equatorial mount and included 90 degree astro star diagonal ($569) seems the best way to go. The super-heavy-duty SkyView Pro 127 ($649) adds significant weight and bulk, but it does sport a 6x30 finder and has optional dual-axis drives to permit astrophotography and ccd imaging. In any of these three configurations, the telescope is an impressive value.

One word of caution: though the quality and consistency of Orion's Chinese-built scopes continues to improve, there may be variations. A second Apex 127 that I tested had optics about 95 percent as good as mine, but it arrived with a slightly dented tube and scratches on the rear mirror cell. Fortunately, Orion's 30-day "no questions asked" return policy makes such a situation no more than an inconvenience.

Given the satisfaction I've experienced from my Apex 127, I highly recommend it where price and portability are a major consideration.

Clear Skies!
Larry Carlino
astrozelle@aol.com

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the BAA, the forerunner to his "BAA Annals" no doubt.

35 YEARS AGO - Rochester's Ralph Dakin spoke to us in May 1968 on his "Eclipse Trip to Peru". Sylvia Mosher from the Lockport Astronomical Society spoke the following month about "Mythology and the Constellations".

Walt Whyman reflected philosophically in *The Spectrum* on the physical nature of the universe. Darwin Christy reported on the skies at Honey-House in 1968, as he was to do ten years later, and concluded there were 66 "good nights", which afforded plenty of others to catch up on sleep. Ed Lindberg noted improvements he, Thad Toporczyk and Ernie Okonski made at our old Newstead Observatory. They installed rings so the telescope tube could be rotated, fixed the declination axis, cleaned the mirror and diagonal, and collimated the instrument. Ed bragged that "The club now has 3 eyepieces." We managed to make do with less thirty-five years ago! By the way, the telescope they serviced is the 12-inch now at BMO.

In Search of Alien Oceans by Patrick L. Barry and Dr. Tony Phillips

A robotic submarine plunges into the dark ocean of a distant world, beaming back humanity's first views from an alien ocean. The craft's floodlights pierce the silty water, searching for the first, historic sign of extraterrestrial life.

Such a scenario may not be as fantastic as it sounds. Many scientists believe that Jupiter's moon Europa conceals a vast ocean under its icy crust. If so, heat from the moon's interior-which would keep the ocean from freezing solid-may also drive subaquatic volcanoes and hydrothermal vents. On Earth, such deep-sea vents provide chemical energy for ecosystems that thrive without sunlight, and some scientists even suggest that Earthly life first got started around these vents.

So a warm Europan ocean spotted with thermal vents could be a natural incubator for life. That's why some scientists hope that someday we will send a probe to Europa that could bore through the ice and explore the ocean below like a submarine.

To plan for such a mission, scientists would first need to put a camera in orbit around Europa. By looking for places where water has welled up to fill the spindly cracks that riddle Europa's surface, scientists can estimate where the ice is thinnest-and thus easiest to bore through.

That mission scenario presents a problem, though. Europa orbits Jupiter inside the giant planet's punishing radiation belts. Continuous exposure to such high radiation would damage today's scientific cameras, making the information they gather less reliable and perhaps ruining them completely.

That's why NASA is designing a more radiation-tolerant CCD that could be used on a mapping mission to Europa. A CCD (short for "charge-coupled device") is a digital camera's chip-like core, which converts light into electric signals.

"We've seen the effects of this radiation during the Galileo mission to Jupiter," says JPL's Andy Collins, principal investigator for the Planetary Imager Project. "Galileo has orbited Jupiter for many years, dipping inside the radiation belts only for brief intervals. Even so," he says, "we've seen clear signs of damage to its instruments."

By using the hardier CCD's developed by the Planetary Imager Project, a future probe could remain in Jupiter's radiation belts for many months, gathering the maps scientists will need to finally get a peek behind Europa's icy veil. And who knows, maybe there will be something peeking back!

To learn more about the Galileo mission to the Jupiter system, visit http://www.jpl.nasa.gov/galileo/ . For children, a fun, interactive "Pixel This!" game at http://spaceplace.nasa.gov/p_imager/pixel_this.htm introduces CCDs and how a really tough one will be needed for a future mission to Europa.

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

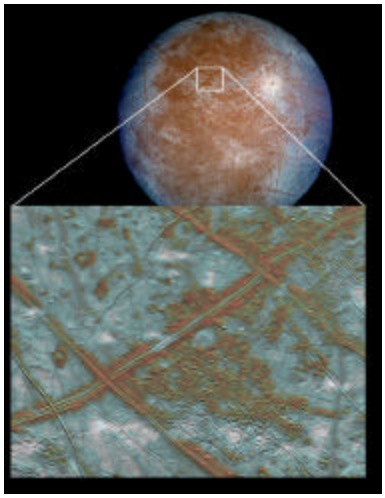


Image Caption:

Cracks on the icy surface of Jupiter's moon Europa give evidence of a liquid ocean below.

For Sale

Meade Finderscope 6x30
Like New $20
Orion 9x50 Right Angle
Finderscope
$45.00
Call Ralph Green at 649-5911

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.

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

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
Contact: Don Jusiak at 667-7212 or 481-1697.

Member Pictures

Left: Plato by Alan Friedman

Middle Left: Quarter Moon by Jeff Gardner

Middle Right: Quarter Moon by Jeff Gardner

Lower Left: Jupiter by Mike Israel

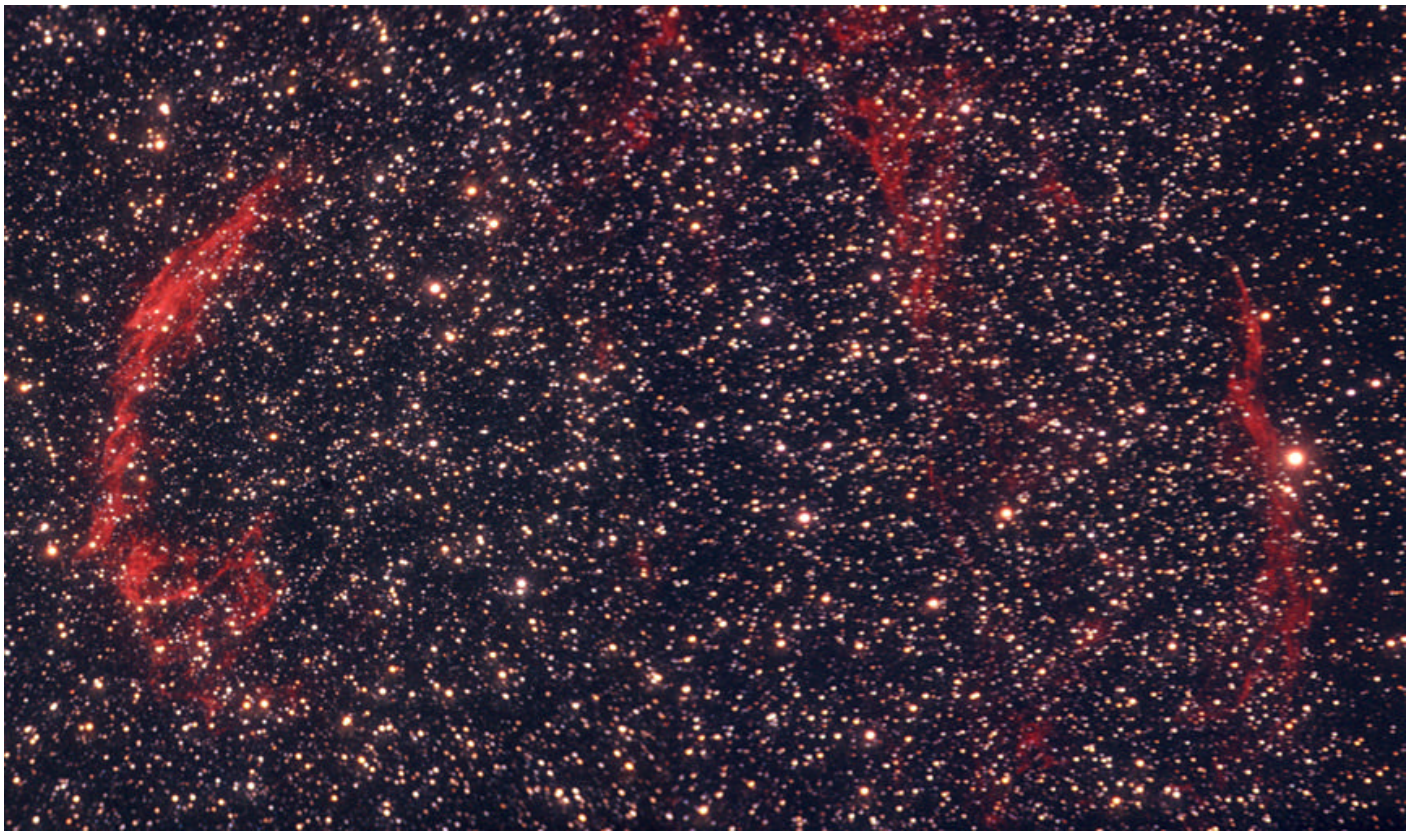
Lower Right: Shadow Transit on Jupiter by Alan Friedman.

Member Pictures

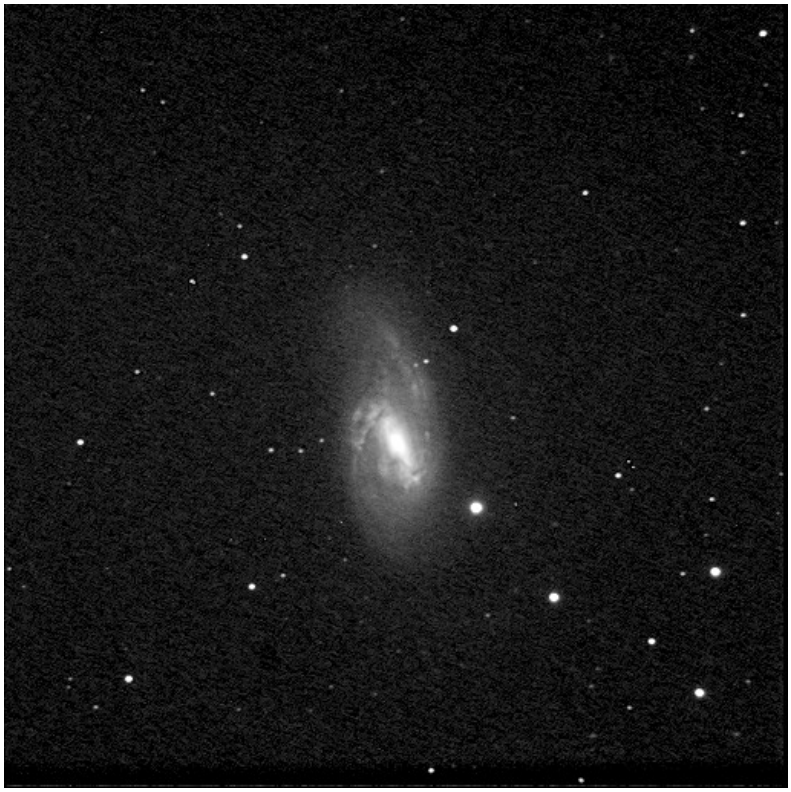
Above Left: Aurora Borealis over Beaver Meadow Observatory on October 27, 2000 by Anthony Davoli

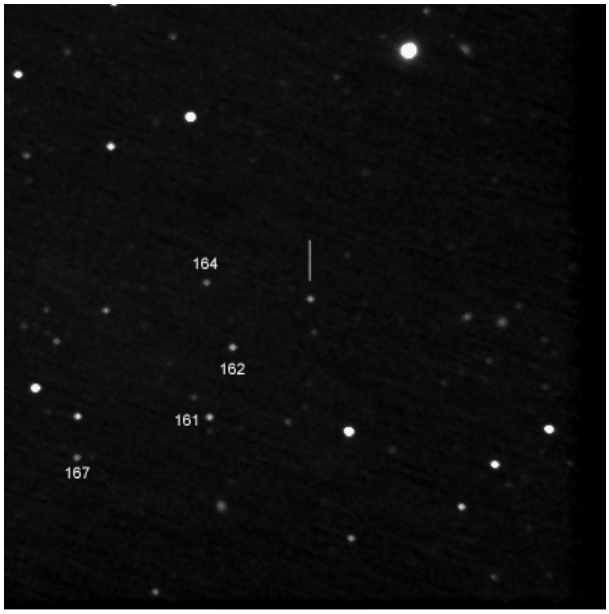
Above Right: Aurora Borealis over Beaver Meadow Observatory on October 27, 2000 by Anthony Davoli

Below: Veil Nebula Mosaic by Anthony Davoli



Member Pictures



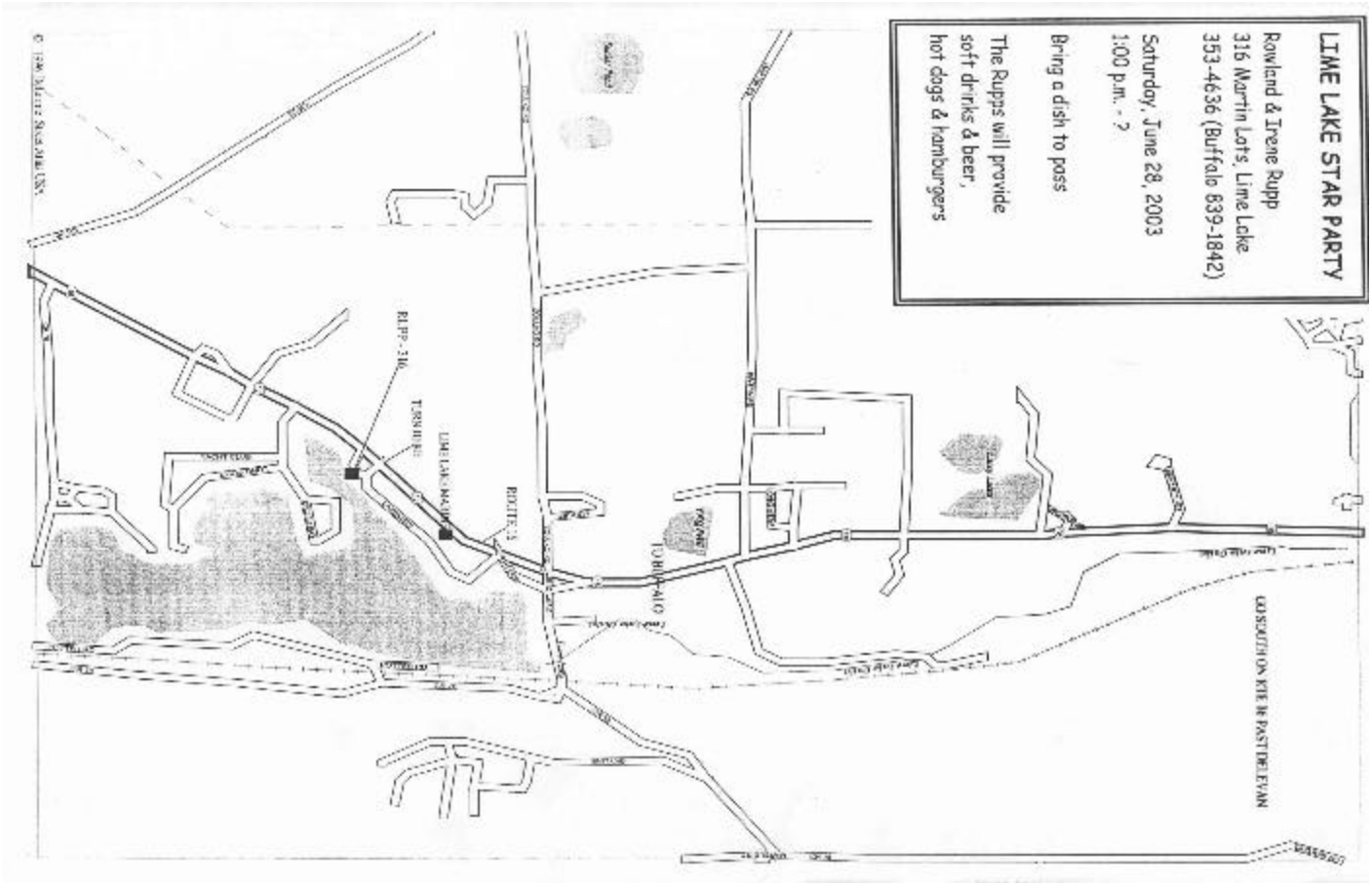


GRB030329
Orbit Jet Observatory (227)
Magnitude 16.17(R)
30cm SCT - ST9E - 8x2min - 2003/03/31.126UT
RA:10h44'50" Dec:+21d31'18" 15'x15'
T. DiLapo

Above Left: M66 by Rick Pason

Above Right: GRB 030229 by Tristan DiLapo

Right: M51 by Dennis Hohman



Newsletter of the Buffalo Astronomical Association Inc.

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