



Current DECEMBER
Astronomy 2003

RIVER BEND ASTRONOMY CLUB NEWSLETTER



Brilliant displays of the aurora borealis (seen here north of St. Jacob, IL) capped October for club members, several of whom enjoyed a natural phenomenon rarely seen over this part of the world. Then, disproving that wisdom, more auroras fired up in November. PHOTO BY GARY KRONK

Autumn aurora euphoria

It came, we saw, we photographed

BY MARK BROWN, GARY KRONK AND JAMIE GOGGIN

Storm front

Most October nights over these central United States, the dim suns of autumn barely whimper, the sparkling summer constellations cool in the west, and the icy winter stars dawdle in the east. Such evenings can make for unexceptional stargazing. But this October a strange and unexpected fire illuminated the darkness.

Our star, the Sun, unexceptional in its own right as far as stars go — though rather fortunately so for human life — misbehaved. Some roiling consternation there marred the solar disc with huge, ominous spots. Scientists were surprised when, despite having entered a quiet phase of its cycle, the Sun hurled a yowling fastball of particles called a full halo coronal mass ejection straight towards home planet. Lucky we saw it coming.

Possible outcomes of the solar burst were bleak or beautiful, depending. Electronic communications were threatened (some radio transmissions were scrambled) and some high-flying astronauts and air travelers did get a chest X-ray's dose of radiation. Locally, though, the impact was quiescent and mysterious: a geo-magnetic storm boosted the aurora borealis, that nocturnal fixture of the upper and lower latitudes, painting colorful light shows around the world, including here...where few River Bend Astronomy Club members have ever seen an aurora outside of a picture book or a movie.

And so it happened. Three friends, three members of the club, were awake to see it. Their story, like the invisible solar wind, took us all by storm. — *Editor*



Auroral rays slash reddened sky near the Big Dipper's handle in the northeast. PHOTO BY MARK BROWN

October surprise BY MARK BROWN

Astronomy to me is like a drug. As I gaze skyward, the black velvet background above me unfolds, glittering with several thousand majestic pinpoints of light. Though I find stargazing, planet watching, and astrophotography to be rewarding experiences, sometimes even I find the usual sky phenomena growing repetitious if not blasé. But dramatic events like the auroral displays of October, 2003 keep me coming back for more. Plus, this time I got to share it with friends.

Solar scientists watched explosive flares rise above the Sun's eastern limb in mid-October — activity from an unseen sunspot complex that was hurling massive amounts of material into space. I thought to myself, "Could this be something to watch for?" I could only hope for the best, that these particles would come to interact with Earth's magnetic field and enhance the aurora borealis, the colorful northern light show that's so rare in our neck of the woods.

As the Sun's rotation carried an already enormous sunspot called 484 into view, it's size and continued growth was intriguing. By October 22nd, the spot was larger than the planet Jupiter. I assumed that this spot would be like previous "disappointments," and not produce any major flares as it made its two-week trek across the face of the Sun. A major solar eruption aimed at Earth seemed about as unlikely as auroras in southwestern Illinois. A few days later, a second large sunspot complex, 486, rotated into view. Although the spots were magnetically complex and twisted, they were not producing many violent eruptions as hoped. Even so, they had to make their way across the Sun. Things were getting interesting.

On October 24th, I held my solar filter to my eyes to see the two dark spots. Impressive! Soon I had my telescope out to study and image the spots. Although my pictures were so-so, the opportunity let me relax in the enjoyment of this wonderful hobby.

On October 27–28, the sunspots neared the Sun's meridian. Then, the Sun obliged my wildest dreams with a perfectly timed colossal explosion from sunspot

486, aimed directly at Earth! The full halo coronal mass ejection rocketed toward us at more than 4 million miles per hour. Space weather alerts were posted: This event would impact Earth in several hours, not days! Mid-latitude aurora warnings echoed across web sites and through e-mail. Estimated impact: October 29th, 2:00 am.

Trusting the predictions of solar and aurora experts, I set my alarm for 12:45 a.m. Pulling myself from the comfort of my warm bed, I rushed to the computer to check various web sites. The impact, much to my surprise, was underway. I quickly dressed in my warm gear, gathered up my camera equipment and film, and — oh yes, my 3 kids — and out the door we flew.

We traveled to the park in St. Jacob, IL, and arrived at 1:25 am. My children snuggled in sleeping bags inside the now-warm van as fellow club member Jamie Goggin arrived. We made our way into the shadows of the park's wide-open field. The chilly but invigorating night air was ripe with anticipation; still, we knew not what to expect.

Shortly before 2 a.m., Jamie noticed a brightening along the northern horizon. I also saw the glow and we snapped our cameras. Was it only a town or city north of St. Jacob emitting a small light dome? But the intensity of the glow increased, seeming more like an emerging aurora. At 2:10 a.m., another club member, Gary Kronk, called my cell phone and asked my location. I told him we were at the park and asked him if he had seen a blue-green glow toward the north. Gary replied, "Thank you! I'm seeing the same thing from my house." All three of us then knew it was real.

Gary joined us about 20 minutes later. Soon after, the northern sky began to change. The greenish glow grew brilliant while clouds punctuated the northwestern sky. As I scanned the horizon, I began to see striations and structure above the green glow. The others could not yet perceive it. Almost immediately a brilliant red curtain with striations appeared behind the cloudbank to our northwest (estimated time 2:35–2:40 a.m.). This was so intense that it illuminated the backside of the clouds. Everyone's eyes flew open wide. It's showtime! For the next 45 minutes, Gary, Jamie and I witnessed the spectacular aurora ripple from the northwest to the northeast and back again. Brilliant curtains of red, seas of blue-green, and towering yellow pillars rose

Everyone's eyes flew open wide. It's showtime! For the next 45 minutes, Gary, Jamie and I witnessed the spectacular aurora ripple from the northwest to the northeast and back again.



The aurora provided a colorful backdrop for clouds drifting in the northwest. PHOTO BY GARY KRONK

and fell, climbing almost to the zenith. It was difficult to contain our excitement and keep from waking the park's nearby neighbors. Shouts of "Look at that!" "Holy Sh*t!," "Awesome!," and "Cool!" echoed through the still night despite ourselves.

Where to point the camera? — the sky was so active and continually changing. I found myself giggling uncontrollably, maybe the result of watching and listening to my friends' excitement as they witnessed their first huge aurora. As they say, auroras can trigger giddiness and odd swings in behavior...

I was tired after shooting nearly two rolls of film on only a few hours of sleep. But, I was anxious to get them developed. By mid-morning, colorful prints from a local instant processor rewarded my early-morning efforts. The hues were vibrant and true to what we had witnessed during those early morning hours; the dazzling aurora still glowed on my film.

Incredible as it may seem, yet another coronal mass ejection set the stage for more to come.

All told, within 40 hours, members of RBAC were able to witness three auroras through the early morning and late evening hours of October 29th and again during the early evening hours of October 30th.

This, my fourth auroral event — by far the most exciting to watch and photograph — was well worth the price of one night's sleep.

Illinois aurora BY GARY KRONK

The morning of October 28, 2003, was very exciting. While settling in to work I received an e-mail that a massive solar flare had just sent material in the direction of Earth. I was happy to finally see this since fellow club member Mark Brown had been saying for days that the giant spots marking the Sun could eject a flare large enough to cause auroras in our latitudes. Soon thereafter I received an urgent e-mail from Mark Brown.

Pillars of yellowish-white light began extending from the northwestern horizon to points high into the sky. First one, then two, and then many more.

Mark, a space weather enthusiast, kept the club well informed throughout the day via e-mail. Most important, he later told us that scientist's predictions indicated the material would reach Earth around 2 a.m. on October 29. Fortunately, this news arrived before I left work and I let my boss know that I was taking a "solar flare" day on the 29th. I intended to stay up all night for this, as I had been trying to get a good clear view of an aurora for many years. Due to the current enhanced level of solar activity, my first mostly clear view of an aurora had come only the Friday before, on October 24, when I had managed to see one strong and four weak pillars of light in slightly hazy skies. I had even photographed one of them — my pride-and-joy aurora picture to date.

Following sunset on October 28, I began watching the skies and checking the Web site of the National Oceanic and Atmospheric Administration (NOAA). Reports indicated that auroral activity was already present from a weaker solar flare from the 27th. I checked several discussion lists that evening and everyone was saying the same thing — when the solar material hits, the aurora activity level on the NOAA site would quickly escalate. Shortly after midnight, that activity jumped to its maximum level.

I rushed out and reclined in my backyard lawn chair. My eyes became dark adapted, but nothing was happening. I went back inside around 1 a.m. and rechecked the NOAA site. The activity level was maintaining its maximum strength. I went back out around 1:15 a.m. My eyes had dark adapted quite well by 1:30 when I noticed that my normally black northern sky was glowing with a bluish-green color. Initially, I wasn't sure what this was, but after a few minutes I

was convinced it was growing in intensity, so I began taking photographs at 1:55 a.m.

By 2:15, I was still baffled by this glow, as it was like nothing I had seen before. Of course, I wasn't exactly experienced at aurora observing, but I knew someone who was. I decided to call Mark Brown on his cell phone, because he had earlier said he was wanting to go to St. Jacob park to observe. Mark answered and said he was there with Jamie Goggin. He asked me if there was any distant town to the north that would be casting a glow into the sky. I said no. Now we both knew that this was the aurora. I packed up my camera equipment and headed to St. Jacob Township park at 2:35 a.m. I arrived at the park and was completely set up and taking photographs by 2:45.

The first few photographs were of the bluish-green glow, but soon we could see a lot more. Pillars of yellowish-white light began extending from the northwestern horizon to points high into the sky. First one, then two, and then many more. Each new one appeared to the right of the one before it. After the first few pillars were visible in the sky, a reddish glow began appearing in the northwestern sky. My film recorded how this reddish glow very rapidly increased in intensity. I was shooting 15-second exposures with a 28mm lens and my first dozen shots showed the reddish glow expanding, while the foreground clouds were unchanged. I figure I was shooting three to four pictures a minute at that time.

I called my wife at 2:55 and told her to get up and look out the bedroom window. This may sound like a rude thing to do to somebody, but she had asked me to call if anything became visible. Honest! Anyway, she immediately gasped at first sight of the reddish northern sky. My teenage boys, she later told me, would not wake up.

During the next 20 minutes, Mark, Jamie, and I snapped pictures like crazy. At one time parallel pillars of yellowish-white light were lined up across the entire northern sky, from the northwest to the northeast. They varied in intensity and seemed to change in only a few seconds time. The reddish glow became very intense at times and steadily worked its way from the northwest to the northeast. The bluish-green glow also became very impressive. We could see the bottom of the glow toward the north and noted that it occasionally



A green glow contrasted with a darker band just above the northern horizon. PHOTO BY JAMIE GOGGIN

moved and also changed in intensity over periods of just a few seconds.

The display was noticeably fading by about 3:20 a.m. The reddish light was reduced to an almost imperceptible glow in the northeast and the pillars were gone, except for one straggler that made a brief appearance in the northwestern sky. Jamie left around 3:30. Mark and I stuck it out a little longer to see if an encore was in the making, but the bluish-green glow almost due north of us was obviously fading and was barely visible when we packed up and left shortly before 4 a.m.

Thanks to cell phone alerts from Mark Brown and Jamie Goggin, I was able to photograph additional auroras on the evenings of October 29 and 30, but neither of these matched the intensity of the event described above.

Over nearly 40 years of observing the night sky, this rates as one of the top four events I have ever witnessed. I was struck by the colors and intensity of the light as well as the perceived motion of some auroral features. Fortunately, the photographs I obtained well represent the event and will help keep this fresh in my mind for years to come.


Goal scored BY JAMIE GOGGIN

I had been trying to see an aurora for a few years. When alerts were posted on the Web, I would make it a point to look out in the evening — never with any luck. This time felt different. Predictions for this aurora were much more strongly worded than usual, forecasting *probable* aurora activity, not just *possible* activity. Also, these predictions were much more specific, even forecasting a time for the aurora to begin.

I coordinated a time and a place to observe with other club members. This was beneficial because their enthusiasm rubbed off on me. Arranging to meet them got me out of my house and into my car, when I otherwise might have taken a peek out the window at 1:00 a.m. and gone back to sleep. Observing with Mark Brown and Gary Kronk was educational and fun. They both have a lot of knowledge and experience and are very willing to share. It would not have been the same had I just gone out in the country alone, as was my original plan.

I can now check one life goal off my list: seeing an aurora. Not only did I see it, this one was spectacular! Our pictures really don't do it justice, and I won't attempt to do so with words. Sharing this with other club members that morning, all of us excited to be there, really made it a special experience.

Dawn breaks

With the light of day, the sleepy, lucky three who had seen the aurora were exhausted but eager to share their experiences with the club. Gary Kronk, club president, Mark Brown, Astronomy Day coordinator and Jamie Goggin, Astronomical League correspondent, e-mailed family and friends and sent along images as soon as they were available. Their story was just beginning, however (see page 8). Many around the world had seen the aurora, but these River Bend Astronomy Club members were proud to be among the few in the St. Louis area to photograph and report it. Fortunately for the rest of us, three night owls flew high that day. — Editor 

My favorite vacation spots

Fellow campers helped this sungazer see the light

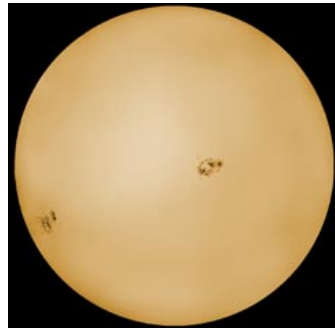
BY DEB WAGNER

I could tell someone was watching me. I turned to look and, sure enough, there was a lady standing by a picnic table craning her neck to see what I was doing. I had set up my refractor (properly equipped with a solar filter) to take a look at a rapidly growing sunspot when I felt that intuitive tingle on the back of my neck that told me I wasn't the only one doing a little "observing."

I decided to walk over and explain my strange behavior before my curious neighbors ran to the payphone to report terrorist activity at their local Illinois State Park campground. Since the harsh reality of 9/11, anyone with a 4-foot long tube pointed at the sky in broad daylight is likely to attract a little unwanted attention.

My fellow campers had attracted a little attention of their own when they arrived at the campground earlier in the day. They were in a big pickup truck loaded with a homemade slide-in camper that looked like it was built during the Nixon era. The real attention-grabber, however, was the campers themselves. When the truck doors opened, two cane-toting Octogenarians slipped out of the cab and methodically set up their campsite like they had done it a million times before. I must admit — I felt a tinge of shame. I was camped in a much nicer RV while these hardy souls, twice my age, were "roughing it" in their homemade rig.

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one of the ladies turned
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experience." I was instantly
filled with pride.**



Sunspots blemishing the face of the solar disc were a curiosity few amateur astronomers could pass up — a look through a safe filter revealed the huge dark regions.

PHOTO BY ED CUNNIUS

I walked over to the neighboring campsite and introduced myself. The campers were visiting with their daughter and another lady who had driven out to the campground to spend the afternoon enjoying the beautiful fall weather. I told them I was observing the Sun through my telescope and invited them to come over and take a look. Their daughter, also equipped with a cane (and the obvious cheerleader for the group) rounded up the flock and shepherded them over to my telescope.

One by one, with the assistance of their canes and a firm grasp of my hand, they stooped to take a look through the eyepiece. The familiar comments followed: "Is that it, that purple spot?" "Oh, I see it — how fascinating!" "Well, I'll be! Would you look at that?" The eighty-something gentleman in the group was more impressed with the telescope than the sunspot. "That's a real nice setup you got there! Did you get a good look at Mars through that thing? I put my field glasses on it one night and it looked about this big." He held out his arm and made a circle with his thumb and forefinger to indicate a disk about the size of a half-dollar. (Those must be some awesome field glasses).

We chatted a few minutes longer and then the group decided to head back to their campsite. As they started to leave, one of the ladies turned back and said, "Thank you so much. That was a wonderful experience." I was instantly filled with pride. I had shown these elderly folks something truly wondrous;

**I'm sure they'll remember
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I know it was a special
experience for them.**

something they had never seen before — a close-up glimpse of their sun. But as I stood and watched them pick their way back to their camper, my pride turned to humility. They didn't rush straight back to sit and discuss their incredible new experience. Instead, they spent a few minutes picking up pinecones to toss into the campfire. They wandered over to a persimmon tree and spent a few more minutes nibbling on that tasty fall treat. Finally, they roamed over to the edge of the lake and just stood and watched the fish jump

as they admired the fall foliage and breathed in the magnificent fall air.

I'm sure they'll remember the time they looked at the Sun through a telescope — I know it was a special experience for them. But their eighty-plus years have been filled with special experiences. I know the life-stories they would tell; I grew up hearing my parents and grandparents tell variations of the same stories.

I love astronomy. There are things “out there” that are truly spectacular — things that are almost too wonderful to comprehend. But these special Octogenarians that briefly touched my life reminded me there are wonderful things right here, too. I showed them the Sun, but they showed me the light. And, while the next starry night will most certainly find me out gazing at the heavens, I also intend to spend a little more time appreciating the wonders of *this* world.

May we all be spitting persimmon seeds and watching the fish jump and peering through telescopes when we're eighty. [fb](#)

Deb Wagner is a local writer, sun- and stargazer.

**St. Louis Post-Dispatch,
Illinois Edition front page**



KSDK-TV Online



**Belleville, Illinois,
News-Democrat**



BBC Online

**River Bend aurora
reports and photos
make headlines**

Members who viewed the intense aurora the morning of October 29, 2003, were quick to prepare their photos for release and alert the local media. Through their efforts, more folks locally and even internationally were soon acquainted with the “River Bend Astronomy Club” as featured in the following news providers:

- Alton Telegraph**
- Belleville News-Democrat**
- Collinsville Herald-Journal**
- Edwardsville Intelligencer**
- Edwardsville Journal**
- Highland News-Leader**
- Granite City Press-Record Journal**
- St. Louis Post-Dispatch**
- KSDK-TV NBC**
- Spaceweather.com**
- BBC Online**

The River's Edge

BY BUBBA HUBBLE

Solar-powered quiz

Sharpen your pencil and take this test to see how much you know about sunspots as well as our ethereal visitor from the north. (No, not Santa Claus.)

What makes a "solar filter" a very useful accessory for any club member?

- It blocks the Sun's harmful rays before you go blind.
- It blocks endless e-mails from Mark Brown before your server explodes.

When seeing an aurora, Jamie Goggin has been known to repeatedly exclaim—

- Holy geomagnetic storm, Batman!
- Holy sh*t!

Whenever solar particles bombard Earth's magnetosphere, you'll find Mike Veith:

- Counting auroral curtains and rays.
- Counting sheep.

If an aurora is predicted for precisely 2:00 a.m. CST, Eric Young will likely:

- Set his alarm for 2:00 a.m. and go outside.
- Set his alarm for 1:15 a.m., look out the window, see nothing and go back to bed.

"Rip" Rippelmeyer's northern sky is ablaze with:

- The aurora borealis.
- The Wal-Mart Supercenter.

Strange figures seen at night in St. Jacob near the time of Halloween are probably:

- Really scary characters you don't want to mess with.
- Members of the River Bend Astronomy Club.
- All of the above.

Judging by the last week in October, really intense auroral displays come our way:

- Rarely.
- Every 18 hours or so.

While you're out shopping, Gary Kronk calls your cellphone and screams "Forget the video store!" What he means is:

- Leave the store at once and head for a dark site to witness an aurora in progress.
- Come over to his place and watch wrestling on the big flat screen.

A dark spot on the Sun results from:

- A fly on your objective.
- Planet Vulcan in transit.

Ed Cunniss says a digital camera is ideal for photographing:

- Really big Sun spots.
- His thumb at close range.

A four-foot-long metal tube in the woods could only mean that:

- It's deer season and your redneck neighbor's out.
- It's sunspot season and Deb Wagner's out.

The best way to experience an aurora is to:

- Watch half the night in the freezing cold.
- Read about it on the front page over a warm cup of coffee at breakfast.

Club members who missed the auroras:

- Enjoyed the experience vicariously and congratulated those who did.
- Banged their heads against the wall and cursed the sky. [fb](#)

Meeting Report

BY MARK BROWN & DEB WAGNER

NOVEMBER 11, 2003, ATTENDEES

Steve Mifflin, Jamie Goggin, Kurt Sleeter, Deb Wagner, Lois Butler, Mark Brown, Gary Kronk, Bruce Kryfka, Josh Sleeter, Mike Veith, and Larry Meyers.

WELCOME NEW MEMBERS! Like the universe, the RBAC is continuing to expand. We're now 26 members strong. However, due to the poor weather and lack of observing at this month's meeting, new member Josh Sleeter may change his mind and ask for a refund.

AURORA NEWS Gary, Jamie, and Mark talked about their aurora experiences and the resulting publicity for the RBAC. Steve Mifflin, who works as a computer systems administrator for KSDK Channel 5, indicated that Cindy Preszler, Mike Roberts, and John Fuller are interested in establishing a relationship with the club for contact information about future astronomical information/events. This could possibly result in additional support and publicity for the club and enable KSDK to call upon members of the RBAC to give their perspectives about astronomical events as they occur. Gary and Mark plan to visit KSDK in the coming weeks to meet the meteorologists.

Kudos to Deb, Lois, and George who spent nearly eight hours on the evening of November 1st/2nd waiting for an aurora to present itself at St. Jacob Park. Earlier, a large flare erupted on the western limb of the Sun prompting a Mid-Latitude Aurora Watch. Mark joined them at around 9 p.m., but the entire crew called it quits at 2 a.m. They later discovered that a small display appeared between 3 and 3:30 a.m. All was not lost, however, as the group passed the evening with good conversation and friendly company.

NOVEMBER 8TH LUNAR ECLIPSE

Despite the clouds, Gary indicated we had approximately 23 people join us for our public event. We even gained two new members! Club members entertained the visitors with a working model of the lunar eclipse

and explained the process that was taking place behind the clouds. Spirits were kept warm with hot cocoa while RBAC members recounted their experiences with the recent auroras.

LEONID METEOR SHOWER

Prez. Gary explained the various predictions for this year's meteor shower. The predictions of 100 to 120 meteors per hour for the November 13th peak seem to have been a dud. This peak was to favor Asia. Gary reports that only a 30- to 40-meteor hourly rate was seen. The next prediction was for the morning of November 19th, which favored the U.S., and included a fireball component — we waited to see what happened.

THE ICE BALL COMETH

Comet Encke is making a good appearance as a 9th magnitude object in the northwestern sky. You should be able to see the comet after sunset and it will be visible for the next few weeks. Gary reports that you need to use low power and a wide field of view. He was able to spot it in his 20x80 binoculars. Do not use your large telescopes! Comet Encke is large (~10-15 arc minutes) and diffuse.



River Bend Astronomy Club serves amateur astronomers of the American Bottom region, the Mississippi River bluffs and beyond, fostering observation, education and a spirit of camaraderie.

Officers

PRESIDENT Gary Kronk
VICE-PRESIDENT Kurt Sleeter
TREASURER Ed Cunnius
LEAGUE CORRESPONDENT
Jamie Goggin
SECRETARY Eric Young

Membership

ADULT \$10.00/year
(18 years or older)
YOUTH \$8.00/year (under 18)

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Astronomical League

Members of the world's largest amateur astronomical organization.

WEB www.astroleague.org

Current Astronomy Club Newsletter

EDITOR Eric Young
E-MAIL younger@wustl.edu
Submissions to the newsletter are encouraged. Contact the editor for more information.

Now, Dasher! now, Dancer! now, Prancer and Vixen! On, Comet! on Cupid! on, Donder and Blitzen!

NEXT MEETING

SATURDAY, DECEMBER 13, 2003

7:00 P.M. • KRONK OBSERVATORY

HOLIDAY PARTY

Excerpt from The Night Before Christmas by Clement Clarke Moore • Photo of Comet Hale-Bopp by Gary Kronk

ASTRONOMY WEEK 2004 is slated for April 19–25 with Astronomy Day being held on Saturday, April 24th. Last year's event was a great success and something we want to continue. Christy Tinney, of the Edwardsville Children's Museum, kindly allowed us access to the museum to set up our displays and telescopes inside due to some interesting and unstable weather.

The question was raised of whether or not the RBAC wants to pursue holding the daytime event at the Edwardsville Children's Museum and then move to St. Jacob Park for the evening.

If the club wants to pursue an Astronomy Day event again this year, it's always best to start early. In the past, Mark started preparing and sending out letters and information and requesting donations around the 3rd week of January. The early bird always gets the worm, as they say, which proved to be true last year. We had several donations and free give-away stuff.

If the club approves, Mark is willing to put forth the time and effort to coordinate this year's event. Of course, effort on everyone's part is greatly appreciated and contributes to the success of the event.

AEWS The club is considering the implementation of an Aurora (Astronomical?) Early Warning System (AEWS). Members who wish to participate can share their contact information (cell phone, home phone, and/or pager numbers) with other participants. If a club member witnesses a special astronomical event in progress, he or she can notify members on the AEWS

list. Disclaimer: Astronomical events tend to happen at night. If you participate in the AEWS, you may be jarred from your warm, cozy bed so you can run outside in your PJs and look at the sky. No fair yelling at the person who phoned you!

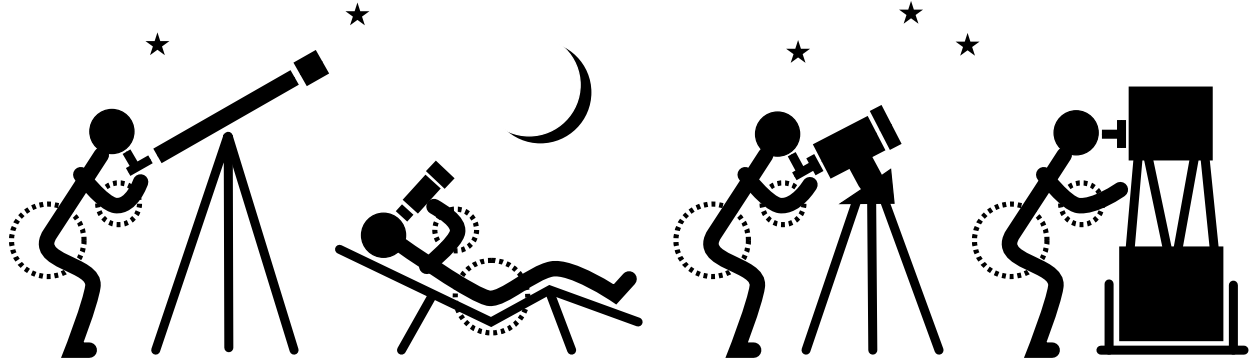
MESSIER MARATHON For a couple of weeks each year it is possible to view all 110 Messier objects in a single night. Deb suggested that as a club we get together and try to complete a Messier Marathon. It is an all-night "marathon," to observe as many of the 110 "M" objects as possible — without using computerized or automated telescope positioning. The marathon does not allow intensive study of individual celestial objects, but it gives a perspective of the grouping as a whole. Latitude, moon phase, and the Sun's position are important factors.

Here is a list of the suggested weekend dates for the next five years:

Messier Marathons

Year	Primary Weekend	Secondary Weekend
2004	March 20	NONE
2005	March 12	NONE
2006	March 25	April 1
2007	March 17	NONE
2008	March 8	March 29

We recommend light bending nightly.



Exercise your sense of wonder — join the River Bend Astronomy Club.

Meteors explode high above the Earth. Comets exhale dusty, million-mile-long tails while hurtling towards the Sun. Galactic collisions rip stellar systems to shreds of stardust. Oh, and don't forget the Big Bang...

These aren't scenes from Hollywood's latest action flick. The drama of the universe plays nightly over your backyard. All it takes to enjoy the show is a little know-how and maybe some modest optical equipment. Popcorn is optional.

While often exciting, astronomy is also a peaceful, deeply meaningful, and some might say spiritual pursuit, a search for a "cosmic connection"—reaching out from our tiny blue world to try and grasp our place in the universe.

The thrilling WOW! of a child's first glimpse of Saturn through a telescope as well as quiet, personal moments are among the many rewards of amateur astronomy. The River Bend Astronomy Club aims high to make your pursuit as rewarding as possible.

Anyone interested in learning more about astronomy may join. Expensive tools or special skills are unnecessary. But space is a big place—it helps to know someone with a road map. Members have maps, and they'll gladly show you around the sky—plus you'll enjoy sharing great sky views using quality astronomical telescopes. Besides, it's more fun to share the night together (and having a friend close by helps ward off night-feeding hungry bears, surprise alien attacks, etc.).

Through club membership, you join the Astronomical League, a national federation of over 240 local astronomy societies. The League's many special programs and quarterly newsletter will enrich your hobby.

We meet monthly, observe regularly, e-mail news and quips constantly, and generally have a good time. Won't you join us?



River Bend Astronomy Club Membership Application

Name(s) _____

Address _____

City _____ State _____ Zip _____

Phone (Day) _____ (Evening) _____

Email address (to receive club news and information): _____

Where did you hear of our club? _____

How long have you been interested in astronomy? _____

Do you have optical equipment? Telescope Binoculars

Are you afraid of the dark? Yes No (just kidding)

I am submitting my application for:

_____ Adult membership(s) @ \$10.00/year (18 years or older) _____ Youth membership(s) @ \$8.00/year (under 18)

I enclose a check for a total of \$ _____ made out to "Ed Cunniss, Treasurer RBAC."

Signature _____

Date _____

River Bend Astronomy Club

c/o Gary Kronk, 132 Jessica Drive, St. Jacob, IL 62281

web: riverbendastro.org e-mail: riverbendastro@att.net