

April 1, 2010

Hobby Day at the Amherst Public Library

by Denny Bodzash and John O' Neal

Saturday, March 27th marked the third annual Hobby Day at the Amherst Public Library. The Black River Astronomical Society has been present at the previous events, but this year we saw to it that the show was better than ever.

Four members, club vice president John O' Neal, secretary Dave Gulyas, long time presi-



Photo by Denny Bodzash. People swarm the Lucas scope.

dent Mike Harkey, and yours truly were in attendance manning the scopes, teaching members of the public about astron-

omy, and, hopefully, recruiting some new membership.

Story continues on pg 3, see HOBBY DAY

BRAS Loaner Scope Program

Want to look at the sky but don't own a telescope? No problem! The Black River Astronomical Society is here to help. BRAS has a loaner scope program. Just ask one of our officers for details. We also have some binoculars available, too.

New Members

The Black River Astronomical Society has two new members:

Dan Walker
Steve Johns

Astronomy Day is April 24th

by Denny Bodzash

It's a holiday that not many people know about: it's Astronomy Day, it falls on April 24th, and the Black River Astronomical Society has partnered up with the Lorain County Metroparks for an all-day celebration of the hobby that brings us all together.

The day will start at the Carlisle Visitor

Center (the location of our regular meetings) and run 9am to 8pm. Features at this location include displays, featuring, among other things, telescopes and meteorites. In light of the ever increasing apprehension over 2012 and potential doomsday, there will also be a program titled, "2012: Domsday Debunked" and the more conventional

"The Sun: Our Star." Proving that astronomy is not a night time only hobby, there will be solar (clear sky only) and radio telescopes (clear or not) operating during the daylight hours until 8 pm.

After the festivities end at the Carlisle Visitor Center, there will be an hour break before activities resume in the

form of a star party at the Nielsen Observatory (clear sky permitting), located behind the Equestrian Center.

This is a great event designed to bring astronomy to the public. If you are a new member just getting interested in astronomy or know someone who might be interested, pass the word and come on out.

Black River Features

Board of Directors Hard at Work for You

by John O' Neal

On Friday, March 19th we had a wonderful first star party of the year at The Nielsen Observatory. This was the first successful Star Party held (due to weather) since last October. We had quite a bit to show off last night.

When our President, Tim K took office he appointed a committee to work with the Metroparks, and we are beginning to see the fruits of that committee's labors. The first "sign" that change is afoot is the new sign in the parking lot. Watch on the right side of the road as you approach the parking lot... For those of you with a keen eye, you'll notice a slight misspelling in the sign as it currently stands, but that is being worked on and will be corrected soon.

Next, is the new combination storage boxes/bench seats installed in the Observatory. These will allow us to clear some of the clutter in the Observatory and will provide much needed seating for guests. As

the weather improves we will get the bench seats painted and vinyl cushions added to make the seats more comfortable.

I counted 32 people on the pad outside at one time last night. When a bright meteor flashed overhead a symphony of joyous music spontaneously erupted from our overjoyed guests.

Tim also charged the Board of Directors with coming up with a new, cleaner logo and then making a banner for us to display at public events. Member Len J provided the artwork and worked closely with the Board and a local graphics firm to make a banner for us. We unveiled the new banner last night at the Star Party.

The weather was fabulous with temperatures in the mid 50's. The seeing came and went along with spotty clouds. We enjoyed some spectacular views of Mars and recently reappearing Saturn through the C-14 and the Unitron Refractor. We also enjoyed the Club's new "Paul Bunyan" binocu-

lars and Parrallelegram mount. (Sorry, I forgot to get a picture.) Next time! ;-) Mr. Nagy's 8" set was a big hit, as was Dave L's Galileoscope. Over a dozen members were present with about 35 guests attending. It was a fun way to welcome in 2010 astronomically.

So, with the weather steadily turning nicer, we're hoping for many more successful star parties this year. Hope to see you there.



Lining up at the C-14 by John O' Neal



Storage and Banner by John O' Neal



Black River University

Calculating Your Telescope's Maximum Effective power

by Len Jezior

Question: How much power can you get from your telescope?

Way back when, as a new hobby astronomer with my 1st telescope, I had visions of reaching into deep space with high-powered magnification. Using my 4in Celestron and a 6.7mm eyepiece, I'd be seeing things I'd never seen before.

So ? for the novice astronomer, here's what I learned.

Answer: Magnification is power. Every telescope has a magnification limit. You can change the power by changing the eyepiece. By changing the eyepiece you can create magnification way greater than the telescope's ability to produce a satisfactory image. The Rule of Thumb formula to find out that maximum magnification value is an easy one.

Aperture x2 = Max Power

Ex. A Meade ETX-125 has an aperture of 127mm

so . . . 127mm x 2 = 254x

Question: What's the smallest focal length eyepiece that will reach maximum effective magnification for the ETX-125?

Power (X) = Telescope Focal Length / Eyepiece Focal Length

Answer: So, for a 1900mm focal length Meade ETX-125, divide focal length by max power

So . . . 1900/250 = 6.7mm

Working backwards . . .

Question: How big a telescope would you need if you wanted to see the sky at a power of 500x?

Answer: Remember that the Max Power = Aperture x2

So . . . 500/2 = 250mm aperture

Now, how to convert milimeters to inches?

1 millimeter = 0.0393700787 in.

So . . . 250mm x 0.04 = 10in.

Remember that we don't know the focal length of the tube (until we examine the scope) so we don't know what size eyepiece would produce 500x.

Question: How much telescope will your budget or significant-other let you purchase?

Answer: That a question to which I don't have a formula. You got me there.

HOBBY DAY

Continued from page 1

Denny and Jim deserve a big round of thanks for manning the table inside the library. Armed with a couple of radio telescopes, club brochures, flyers, some other displays and our new business cards, they represented the club well.

Meanwhile, outside the Library, amongst the Alpacas and clowns, lurked a dedicated group of Solar Astronomers armed with a plethora of instruments to enhance the publics' enjoyment of our closest star. First and foremost on the list is the centerpiece of our Solar arsenal, the new Lunt Solar Telescope. I'm so glad we purchased this little jewel. It is a real performer.

Another popular hit was The LucasScope. The huge yellow ten inch diameter sun with two huge sunspots was a hit, even amongst those too timid to actually look inside a telescope.

There were huge crowds and sometimes large swarms of people. Library staff said people were very impressed with us and they asked us to return again next year. They said over 800 people peered into our scopes today and many left glowing comments. It's always good to know you're appreciated so it was nice when the staff gave us the news.

FOR PICTURES, SEE PG. 6

The Black Hole

For Sale: Meade f6.3 Focal Reducer/Flattener: \$100

An Astrophotographer's dream. Improves edge-of-field correction and reduces exposure times by close to 50%. Effectively reduces focal ratio by a factor of 0.63. Threads into rear cell of any Schmidt-Cassegrain. The f/6.3 Focal Reducer duplicates the rear cell thread of the telescope, allowing you to attach all standard rear cell visual/photographic add-ons.

Contact John O' Neal
johnoneal@onealwebsite.com



For Sale: 8 Inch Newtonian Optical Tube Only: \$300

I can't ask more because it just doesn't do what it should, photography. But for \$300, it's a bargain visual scope. Optically, it's like new. It also comes with mounting rings and a finderscope. I also added the heavy duty 2" dual speed Crayford focuser. It's on a Meade Heavy Duty Equatorial Mount, which was for their 12" scopes. It has slow motion controls on both axes, but no motor drives. There are some scratches on the tube. Again, visual use only. I'm offering the entire unit for \$500.

Contact John O' Neal
johnoneal@onealwebsite.com



Astronomy Day Help Needed on April 24th at Carlisle/Nielsen

by John O' Neal

The Black River Astronomical Society will team up with The Lorain County Metroparks to Celebrate Astronomy Day April 24th, 2010. Please keep your calendars open. We can use all the help we can get for this all day event.

From 9am to 8pm we will need people inside the Visitor's Center to welcome and talk to guests, and we will need people outside to man the solar viewing and radio telescopes. From 9pm until 11pm we will need people at the observatory to help

out with the crowds.

If you can donate a couple hours of your time, please contact me so we can work out a schedule and try to get full coverage throughout the day. If you are new to the club, don't hesitate to volunteer. We will have more senior members you can team up with to see how we do things and teach you the ropes.

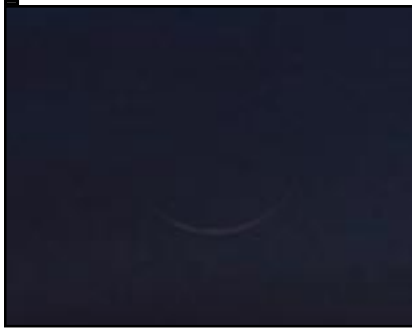
We also need a refractor, reflector, and SCT for a telescope presentation. So, if you could donate yours for the day, it would be greatly appreciated.

BRAS Gets New Logo



Many thanks to Len Jezior for his work in giving our 60-year-old logo a digital age makeover.

Monthly Observers' Guide



A 26-hour Moon by Denny Bodzash

Young Moon Season is in Full Swing

by Denny Bodzash

Young Moons are, besides quite aesthetic, rare, very rare. To sight a Young Moon under 24 hours old (and even one under 30 hours old), all the conditions need to line up just right. If everything goes perfectly, on the day after New Moon (or even on the same day) just past sunset, a wire-thin crescent will pop out low on the horizon among the Sun's last rays. Needless to say, when dealing with a Moon less than 2% illuminated, binoculars are a must.

So here is why the Young Moon is so difficult to spot:

1. Timing. If New Moon is timed too close to sunset, it will be lost in the Sun's glare on the day of New Moon and will be way past a day old come the next night. A 36 hour Moon is no challenge. No planning is needed to see it.

2. Clouds. If it's cloudy, there's no seeing the Moon.

3. Light. Young Moon hunters are forced to fight twilight, which makes the act of spotting the Moon low on the horizon a challenge. Nearby bright planets make ideal markers if they are in the area.

4. Haze. Haze makes its presence known at dusk even more so than during the day. Looking similar to wispy clouds on the horizon, haze can single-handedly ruin a Young Moon hunt. Haze can even appear in winter and on a crystal-clear day. You simply have to wait to dusk to see if it will appear. While the haze will quickly dissipate come dark, that's too late for the Young Moon.

These difficulties compounded with horizon issues showcase why Young Moons are the Holy Grail of Lunar observers. I caught a Young Moon in May 2006 and had to wait until this February to sight another sub 24 hour Moon.

Now for the good news: spring is Young Moon season because of the near vertical ecliptic. February through May (even June depending on time of month) is an ideal time to look. The window closes by July, so get out while you can!

Future thin crescents:

April 15, 36 hours old

May 14, 24 hours (a true Young Moon!)

June 13, 40 hours

The April Sky

Spring truly arrives in April, which means clearer skies, warmer nights, and, unfortunately, longer days. April is the month to get a last look at the winter constellations. We lose about a minute of daylight a day. By the time true dark arrives, the winter constellations will be riding low in the Western sky. By the end of the month, they'll be lost to twilight. So hurry out and see them while you can.

April sees the spring constellations take their place in the early evening sky. By the time darkness falls, Leo the lion is high and due South while Ursa Major/The Big Dipper is climbing high in the North. April is the first month where one can also use the spring star trail to find his or her way around the sky. Starting at the Big Dipper, follow the arc of the handle to Arcturus (Bootes the herdsman), speed on to Spica (Virgo the virgin), continue the curve to Corvus (the crow), and, if really ambitious, conclude in Crater (the cup). By the time dawn arrives, the Summer constellations are well up, too.

On the planet front, all of the Classical planets will be putting on great shows this month. Mercury makes its best dusk appearance of the year, Venus (dusk) and Jupiter (dawn) are rapidly climbing, and Mars and Saturn are up most of the night. A truly great month for planet fans!

Fun Stuff

Black River Dates: April 2010

Wednesday, April 7. Regular meeting at 7pm at the Carlisle Reservation in Carlisle Township. Topic: Our Milky Way by Mike Plas. RAIN OR SHINE.

Friday, April 9 (backup date Sat. 10). Public star party at the Nielsen. Featured sight: Spring Constellation Showcase, 8-10pm, CLEAR SKIES ONLY

Thursday, April 15: Board of Directors meeting at 7pm at the Blue Sky Restaurant in Amherst, Ohio, located on Route 58 North just past the Route 2 bridge. Board members are expected to attend, regular members welcome to attend and help us run the club. RAIN OR SHINE.

Friday, April 23. Public star party at the Nielsen. Featured sight: Late Lyrid Meteors, 8-10pm, CLEAR SKIES ONLY

Saturday, April 24. Astronomy Day. Meet Black River Astro at the Carlisle Visitor Center (9am-8pm) RAIN OR SHINE. star party at the Nielsen Observatory (9-11pm) CLEAR SKY ONLY.

Friendly Advice. Don't be deceived by the mild days, on a clear April night, temperatures can drop like a rock. Also, those warm fronts pushing through during April often bring a lot of wind to go with the high temperatures, all the more reason to have a sturdy telescope mount.

Visual Observing Guide: April 2010

Early April: Catch Mercury at sunset for one of its best evening appearances of the year!

April 3: The Moon, M4, Antares, and Sigma Scorpius meet up for a close encounter

April 6: Venus and Mercury make their closest pass

April 10: Mercury sets almost 2 hours after the Sun

April 11: The Moon is about 5 degrees above Jupiter at dawn

April 12: The Moon and Jupiter take 2, the Moon is now level with Jupiter and about 10 degrees left

April 15: The Moon (36 hours

April 15: taxes are due, so now may be a good time to start planning on how you want to spend that return check!

April 16: A much easier Moon is now above Venus

April 17: Venus sets two hours after the Sun

April 23: The Moon splits Regulus and Mars

April 24: Jupiter now rises an hour and a half before the Sun

April 24: It's Astronomy Day, come out to Carlisle/the Nielsen for the events or to lend a hand

April 30: Venus and Jupiter keep on climbing!

A Brief History of Astronomy Day

by Denny Bodzash

Hopefully by this point in Guidescope, everyone knows that Astronomy Day is April 24. However, while everyone should be familiar with the date, who knows the history of the holiday itself?

Astronomy Day was started in 1973 by Doug Berger, president of the Astronomical Association of Southern California. Berger's intent: set up telescopes in urban areas to bring astronomy to people who were often ignorant of the night sky.

The idea soon started catching on all around the United States, and then the world. Now, Astronomy Day, in its full name, is the International Astronomy Day, showcasing the holiday's rapid rise from local public outreach into worldwide phenomenon.

Astronomy Day is not set on a fixed date, as it moves around from April to May each year, coinciding with first quarter Moon as much as possible. Astronomy Day is also the culmination of Astronomy Week.

So, now that you know all about the holiday that celebrates the hobby that brings us all together, celebrate by doing some astronomy and/or helping us at our all day event on the 24th.

Black River Photo Gallery



Jim C. talks to members of the public inside the library building at the Black River table.



Moon Halo by former president Dave Lengyel's former student Evan Porterfield.



Mike H. gets ready for business with one of our three solar scopes outside the library.



Venus (upper left) and Mercury (lower right) by former president Dave Lengyel.



The club's recently purchased Lunt Hydrogen Alpha solar scope. This scope provided excellent views of the Sun all day and, in my humble opinion, was a great investment.



The Sun by Denny Bodzash through VP John O' Neal's Orion 120 f5 refractor in white light.

Thank you to everyone who sent photos! Keep them coming!