Newsletter of
The Black River Astronomical Society
Guidescope

Lorain County, Ohio **April 2016**

Website: blackriverastro.org **Newsletter submissions: Editor**

Friday, April 1, 8-10 p.m., Public observing, Nielsen Observatory (cloud backup date Saturday, April 2)

Wednesday, April 6, 7 p.m., Regular Meeting, Carlisle Visitors Center. "The Mars Opposition" by John Reising

Thursday, April 14, 7 p.m., Board meeting, Blue Sky Restaurant, Amherst, Ohio

Friday, April 15, 8-10 p.m., Public observing, Nielsen Observatory (cloud backup date Saturday, April 16)

Travel Travail Avoidance Reminder

Before planning to drive to a regular meeting or to a club observing session in this upcoming fun stretch of northern Ohio early “spring”, please check the club website blog before you leave to make sure that the meeting or session has not been canceled due to hazardous driving conditions.

Observing sessions may also be cancelled due to either hazardous driving conditions or to really crummy sky conditions, so please--save yourself an unnecessary trip or unnecessary risk to life and limb, and check that blog first. Updates are posted an hour or three prior to the scheduled event.

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Wanted: Contributions to the *Guidescope*

If you have anything you'd like to share with the local amateur astronomy community via this newsletter please send it my way for inclusion in upcoming editions. Anything astronomy-related is welcome, and either objective or subjective content is fine. An e-mail link for submissions is here.

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Visit Our Website

Explore the informative BRAS website and all its interesting, timely links, and join the interactive members-only BRAS Forum to better keep in touch.

BOARD SUMMARY March 10, 2016

The meeting was called to order at 7:10 p.m. with seven Directors present. The minutes from the February meeting were read and approved and Schauer read the Treasurer's report in the absence of the Treasurer. Committee reports followed with the *Guidescope* doing well. Lee Lumpkin reported that the website is in good shape. On our Links page he has changed the links to the vendors that support us with OTAA door prizes to banner-style links. Lee also reported there were some TNS errors that he will research and correct. Instrumentation was status quo, since the observatory has not been used recently due to the weather. The OTAA committee has asked John Reising to contact the church to double check on the availability of our desired date. The MetroParks liaison had no report. Programing is set through September. The schedule is as follows:

April	John Reising	The Mars Opposition
May	Rich Thompson	The Iridium satellites: Past, Present and Future
June	Len Jezior	Understanding R.A.
July	Denny Bodzash	Ten Unsolved Mysteries of Astronomy and Cosmology
August	Barb Hubal	Spectroscopy
September	Dave Lengyel	Member Photos of the Transit of Mercury (tentative...depending on good weather for the transit).
October	TBA	Short program and Elections
November	OPEN	
December	Annual Christmas Pot Luck at the LCMP Amherst Beaver Creek facility	

Under Old Business, the first item of discussion was the World Wide Solstice Festival on June 26th and specifically the interactive workshops. The ones we used last year are owned by John O'Neal who is in the process of moving out of state. Therefore we need to see if we can get duplicates of these which were obtained from the Night Sky Network. Dan Walker will see if these are still available. President Schauer has contacted Chubby's Barbecue about providing food for the Festival again and he is available and will participate. Schauer also sent an email to Scott Schneider to see if he can DJ for us again and has contacted Gary Smith about bringing the “Worlds Largest Portable Sundial” again.

(Update: Gary is willing to bring the Sundial and also has some other ideas for the Festival...stay tuned for more info!)

On our Solar Observing schedule, there was an event set for Sunday Sept. 11th that needed clarification, that we now have. We will participate in the Sidewalk Astronomers Solar Event. This is an offshoot of the Sidewalk Astronomers group started by the late John Dobson who invented the Dobsonian telescope and who regularly set up his big dobs on city sidewalks to bring astronomy to people passing by. After his death the group decided to do a few solar events as well as night-time observing and we will participate. We will set up our solar scopes on Tappan Square in Oberlin from noon to 4:00 p.m. on 9/11/16. Club members are invited to attend and to bring solar telescopes if they have them.

New Business followed with the first topic being the election of Directors in October. Every October, the club is mandated by our By-Laws to have an Annual Meeting of the Members and elections. There are 11 members on the Board of Directors plus one Fellow member (Mike Harkey). One-third of the Directors stand for election each year. This year, Dan Walker, Jeff Walsh, Steve Schauer, and John O'Neal's terms are up. In 2017, Lee Lumpkin, Tim Kreja and John Reising will have their terms expire. Since John O'Neal is moving, the Board will appoint someone to finish out his tern as per the By-Laws. Then, the person appointed can stand for election or withdraw from the Board if they wish.

The next item was an a discussion of our need of a new Historian and Archivist to take over from John O'Neal. This person needs to be computer-savvy. More discussion will follow.

Next came a brief discussion of items that John O'Neal was storing at his house that belong to the club. Since he is moving we need to remove those items. One is an astrograph made by the late Bill Mason to fit the club's old Mason telescope which is currently owned by Dave Lengyel. There are also some mirrors and diagonals that could be used to make a new telescope. (Update: The Mason astrograph is currently at the observatory, and the mirrors are stored at Tim Kreja's house where they will be safer than at the observatory. There are also several old tripods and mounts that will need to be sorted through and then dealt with. The tentative plan is to offer them to any members who want them, and try to sell the rest at our OTAA.)

Denny Bodzash contacted the Amherst Library to see if they are having their Hobby Day which we usually participate in. They are not having that this year, but they may coordinate a summer reading program around Star Wars, and may ask us to participate doing solar observing and programs inside.

Last year, the Lorain County Metro Parks conducted a program called the Paddle and Pedal Festival. This was an expansion of their Kayak Festival to include urban bicycling. We participated doing solar astronomy and handing our club literature and enjoyed the event. We have been asked to participate again, and the Board voted to do so. The festival will be Sunday May 15th from 11:00-3:00 p.m. at Lakeview Park in Lorain. This will replace the solar observing we were going to do in May.

The final item of New Business was a decision to have an observatory clean-up and maintenance day on Sunday May 29th starting at 1:00 p.m. This is over Memorial Day weekend when people are off on Monday and we already have Public Observing scheduled for Friday the 27th with Saturday the 28th as our back-up date.

Dates were set as follows:

Wednesday	April 6	General Meeting	Carlisle Visitor's Center	7:00
Thursday	April 14	Board Meeting	Blue Sky Restaurant, Amherst	7:00
Fri./Sat.	Ap. 1,2nd	Public Observing	Nielsen Observatory	8:00
Fri./Sat.	Ap. 15/16	Public Observing	Nielsen Observatory	8:00

Note: Monthly solar observing does not start until May.

The meeting was adjourned at 8:43 p.m.

~Steve Schauer

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Spring's Stellar Signpost

With the month of April and season of spring here, this makes the ideal time to highlight a useful signpost to the stars located in the northern sky: the Big Dipper.

The Big Dipper is not a constellation itself, but rather an asterism, or familiar pattern of stars. The Big Dipper comprises the seven brightest stars of the constellation Ursa Major, the Great Bear. While circumpolar from our latitude, the Big Dipper is at its best placement in spring and early summer as it is highest in the sky at this time of year. With this height, the Dipper actually can serve as a handy way to find one's way around the sky.

Starting at the Dipper, follow the arc of its handle to bright orange Arcturus, alpha Bootes and brightest star of the spring sky. From Arcturus and following the same line, speed on to Spica, Virgo's not quite as bright blue alpha star. From there, continue to Corvus, a small, though rather conspicuous trapezoid-like constellation low in the Southern sky and, from there, conclude in Crater, the dimmer, neighboring constellation to Corvus.

Moving back to the Dipper, follow the imaginary line created by the stars representing the end

of the bowl to Polaris, the North Star. Continuing that line about the same distance through the celestial pole will bring you to 'W'-shaped Cassiopeia, which is just scraping above the Northern horizon this time of year for us at mid-Northern latitudes.

Main stops known, now how about a little sight-seeing?

Starting at the Dipper again, arc to Arcturus, which is at the base of kite-shaped Bootes. To the East of Bootes is a small arc of stars, Corona Borealis, the Northern Crown. Moving east will bring you to the large, albeit dim constellation of Hercules, which is highlighted by two of the sky's best globular clusters: M13 and M92. Moving farther east brings one to Vega, alpha Lyra and apex of the Summer Triangle, which is filled with a myriad of deep-sky treasures and two well-known binary stars: Alberio, which serves as the head of Cygnus, and the Double Double in Lyra.

Speeding onto Spica lands one in Virgo, one of the most galaxy-laden constellations in the sky. With a large telescope at low power and a dark sky, one will have a hard time not bumping into galaxies in the act of scanning the sky. Charles Messier probably didn't like this area of sky all too much.

Lastly, continuing the curve to Corvus brings one to the final great sight in this line of stars and constellations (there's really nothing of note in Crater). This feature: the Sombrero Galaxy, which is located above Corvus and resembles the namesake Mexican hat. If this were first observed in the mid 20^{th} century, it may well have been named the Flying Saucer Galaxy.

Returning to the Dipper, notable galaxies. Toward the Dipper's handle, there are the Whirlpool and Pinwheel Galaxies, both face-on spirals. On the opposite side past the end of the Dipper's bowl lies a close pair: Bode's and the Cigar galaxies, both spirals that have a ¾ and edge-on view, respectively. Taken together, they give a cool picture of how spiral galaxies look at different vantage points.

Using the pointer stars, speed by Polaris as the Little Dipper doesn't have much to offer but be sure to stop in Cassiopeia, which does have highlights in a few open clusters as well as a rich star field. A final jewel: Eta Cassiopeia, a double star whose dimmer member is reported by most observers to look purple in color.

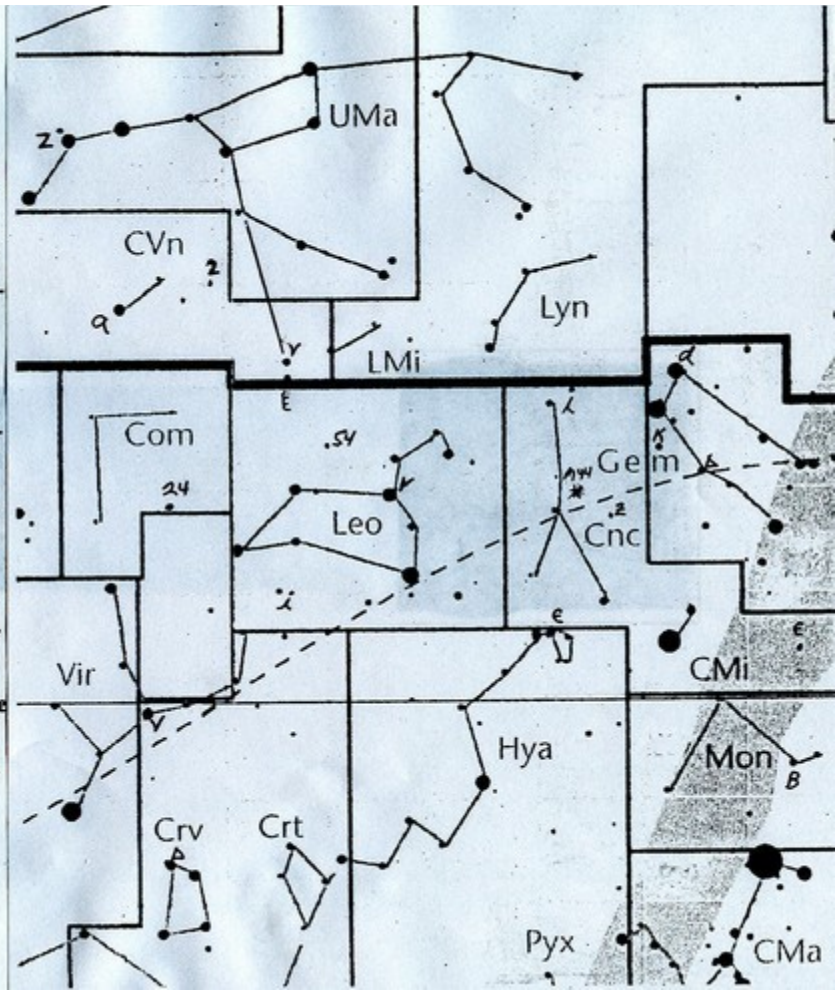
So, besides being aesthetic, the Big Dipper's pretty practical, too.

~Denny Bodzash

Spring Binaries

SPRING BINARY STARS

ID	MAGs	SEP (")	COLORS (Spectrum)
α Gem (Castor)	1.9, 2.9	4.3	A, A white
δ Gem	3.5, 8.0	6.3	F, A
κ Gem	3.6, 9.4	7.1	G, A yellow
ε Mon	4.4, 6.6	12.3	A, F
β Mon	5.1, 5.4	3.0	B, B blue
	4.6	8.3	B
ε Hydra	3.4, 6.9	2.9	G, F yellow
ζ Cancer	5.6, 6.0	1.0	F, G
	6.1	6.2	G
ι Cancer	4.0, 6.5	30.5	G, A yellow
α Leo (Regulus)	1.5, 8.0	176.0	B, A blue
γ Leo	2.3, 3.5	4.4	K, G yellow
54 Leo	4.5, 6.3	6.6	A, A white
ι Leo	4.1, 6.7	1.7	F, G
ξ UMa	4.3, 4.8	1.7	G, G yellow
α CVn CorCaroli	2.9, 5.5	19.3	A, F
2 CVn	5.9, 9.0	11.5	M, F red
ζ UMa Mizar	2.3, 3.9	14.4	A, A
24 Coma	5.0, 6.6	20.3	K, A orange
γ Virgo	3.5, 3.5	0.8	F, F**
δ Corvus	3.0, 7.5	24.2	A, K



(thanks to John Reising)

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Dark Matter and Dark Energy Imaged

Astrophysicists and cosmologists around the world were jubilant when the news arrived that NASA, ESA and JPL had finally succeeded in imaging dark matter as well as dark energy while

utilizing the Fitzwright Orbiting Oscillating Lens Supertelescope. High-resolution images of the revolutionary discovery were immediately released on the World Wide Web. Below is one of the images (note: if image not displaying click here--it may take several minutes for large image file to download):

(image courtesy of NASA, ESA and JPL)