

Newsletter of
The Black River Astronomical Society

Guidescope

Lorain County, Ohio
Website: blackriverastro.org

April 2019
Newsletter submissions: [Editor](#)

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Please check the website blog for any weather-related cancellations of meetings or observing sessions.

--Wednesday, April 3, 7 p.m.: Regular meeting, Carlisle Visitors Center. The Colonization of Mars by Tim Kreja

--Friday, April 5, 9-11 p.m.: Public observing, Nielsen Observatory (cloud backup date Saturday, April 6, 9-11 p.m.)

-Thursday, April 11, 7 p.m.: Board meeting, Blue Sky Restaurant, Amherst

--Friday, April 26, 9-11 p.m.: Public observing Nielsen Observatory (cloud backup date Saturday, April 27, 9-11 p.m.)

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Visit Our Website

Explore if you will the informative BRAS [website](#) and all its interesting, timely [links](#), and join the interactive members-only [BRAS Forum](#) to better keep in touch.

Guidescope Contributions Wanted

If you have any astronomy-related wanted/for sale announcements, photos you've taken, interesting article links, equipment reviews, observing reports, essays, or anything to which that you think the local amateur astronomy community could relate, please send it to your [humble Guidescope editor](#) for inclusion in forthcoming issues.

BOARD SUMMARY March 14, 2019

The March meeting of the BRAS Board of Directors was called to order at 7:03 p.m. with nine Directors present. The minutes of the February meeting were read and approved as was the Treasurer's report. Dan Walker, our Treasurer, reported that we currently have 35 members paid up for the year and 5 Fellow members, giving the club a total of 40 official members.

Committee reports came next with Secretary and *Guidescope* editor Bill Ruth reporting that all was well with the newsletter. The website committee also reported that all was well. There was a brief discussion about the condition of the observatory. After a hard winter with wind and snow storms, Schauer visited the Nielsen and reported that it was in good shape. There were no leaks and things were generally clean. He swept the floor and cleaned the counters, but otherwise the building was fine except for the issue with the roof on the west side and the loose flashing on the east side. Rick Ternes, the Carlisle MetroPark manager, is aware of the problems and will repair them once the weather breaks. Some other smaller repairs have been made. OTAA and Metro Parks Liaison had no reports.

Programming is as follows:

April	Tim Kreja	The Colonization of Mars
May	Dave Lengyel	The trip to Pahrump (with a projector that works, this time!)
June	Denny Bodzash	Astronomical Automobiles
July	Open	
August	Open	
September	Members Forum--How did you get started in astronomy?	
October	Report on the results of the member survey (tentative)	
November	Oberlin Planetarium visit (tentative)	
December	Annual Christmas pot luck at the LCMP Amherst Beaver Creek Reservation	

Old Business followed with only one item to discuss. This was the Member's Survey that Schauer has been working on. Copies were distributed and Board members discussed what questions they wanted to add, delete and change. Schauer will re-type the survey and bring it to the April Board meeting for final approval. The plan is to distribute the survey to members at the May meeting and give people time to fill it in. The survey will be given again at the June and July meetings so people who miss a meeting or two will still have a chance to participate. Then the results will be compiled and the results will be used in several ways. Firstly, the results will be shared with the membership, probably as a program at the October General Meeting. Secondly, the results will be used as a way to improve the club and club activities. Finally, the survey will be used to help us tailor our monthly programs to the interests of the membership. The tentative plan is to repeat the survey every five years or so, to keep track of member interests.

New Business came next with the first item of business a suggestion by John Reising. The club owns a 9-1/4" mirror and secondary from a telescope that was donated many years ago. These have been languishing at the Reising Home for Wayward Telescopes for many years. At the Oberlin Observatory, John and Dave Lengyel have a protegee, a high school student who wants to build her own telescope. John proposed we sell her the mirror and diagonal for that project. It was instead suggested that we donate the items, in exchange for the student photographing her progress and giving a program at a monthly meeting when the telescope is completed. A motion to that effect was made by John Reising, seconded by Dan Walker and was passed unanimously.

The second item of New Business was the application for membership by David Nail. This was approved unanimously. Welcome to the club, David!

The third item of business was a discussion concerning someone to finish out the Board term of Greg Honis who sadly died a few weeks ago. The club By Laws state that if a Board member resigns or is unable to complete his/her term, it is the responsibility of the Board to appoint someone to complete said term. The Board has a person in mind and will contact that person to see if they are willing to serve.

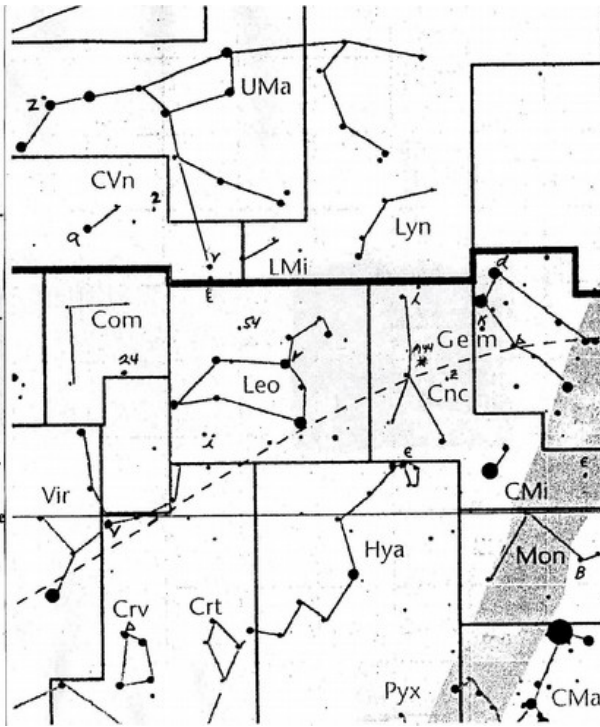
Finally, there was a discussion about creating a protocol on handling the death of a member. With the recent, sad deaths of Greg Honis and Larry Janowicz, this seemed like something the club should have. It was decided that upon the death of a member, an all-club email will be sent out by the Secretary with notification of the death and information about the funeral. If the family suggests donations to a charity or cause, the club will make a donation in the amount of \$50. If no donation is requested, the club will send flowers. It is decided that we will not post information on the passing of a member on Facebook or on the website.

Dates were set, and the meeting adjourned at 8:31 p.m.

~Steve Schauer

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



25 3227 11.6 3.0 x 1.2 3 off of γ Leo
 83 3226 12.7 1.0 x 0.9

E11 Equator, Ecliptic Spring Constellations

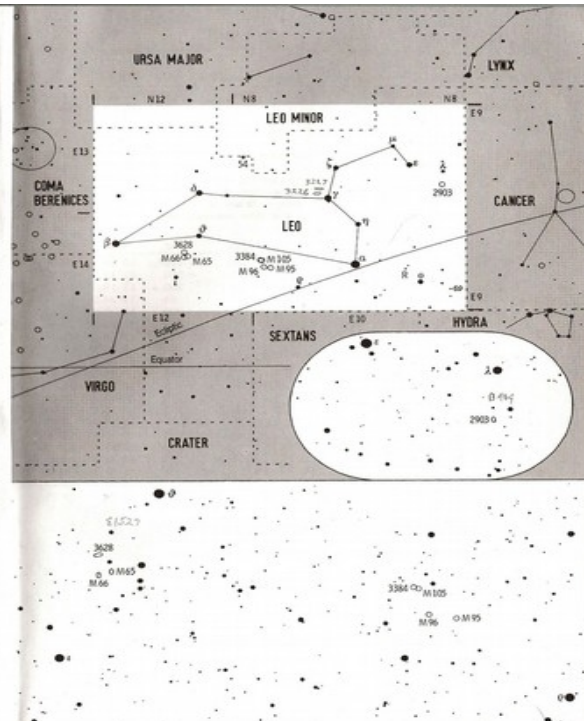
NEBULA	Position	v-Mag	Size	Shape	Type	Vis.	Dist.	R.A.	Dec.
2653	Leo	5	9 13x7	10'	Sr, Glx	5	25 Mly	9 ^h 32 ^m 2	21 ^o 50
3351 M95	Leo	5	10 12	4	Sb, Glx	5	40 M	10 44.0	11.70
3368 M96	Leo	5	9 12	5	Sa, Glx	5	40 M	10 46.8	11.82
3379 M105	Leo	5	9 12	3	E1, Glx	5	40 M	10 47.8	12.58
3384	Leo	5	10 12	4	S0, Glx	5	40 M	10 48.3	12.63
3623 M65	Leo	5	9 12	8	Sa, Glx	5	40 M	11 18.9	13.09
3627 M66	Leo	5	9 12	6	Sb, Glx	5	40 M	11 20.2	13.00
3628	Leo	5	10 12	12	Sb, Glx	5	40 M	11 20.3	13.59

2903 Galaxy with bright oval center, asymmetric, relatively easy to find.
 3351 M95 Stellar core, arms of barred spiral not detectable, 41 west of M96.
 3368 M96 Elongated halo and central area; it contains a bright stellar core.
 3379 M105 Stellar core, more easily visible than M95; it is 48 north of M96.
 3384 Lies only 8' east of M105, stellar core within a featureless nebula.
 3623 M65 Circular central region within a very elongated asymmetric halo.
 3627 M66 At the limit of visibility of binoculars; it is an interesting object in a telescope due to dark irregular dust features; the core is elongated.
 3628 Nicely elongated, a faint dust lane lies along the southern edge.

STAR	Position	V-Mag	B-V	Te.	Abs.	Name	Dist.	R.A.	Dec.
2 ω Leo	5	5.4	0.6	1	3		112ly	9 ^h 28 ^m 5	9 ^o 06
4 λ Leo	3	4.3	1.5	-1		Alterf	320	9 31.7	22.97
14 ϵ Leo	3	3.5	0.5	1	0		134	9 41.2	9.89
17 ν Leo	5	3.0	0.8	-2			260	9 45.9	23.77
R Leo	5	5.8-10	1.4	1			300	9 47.6	11.43
24 μ Leo	5	3.9	1.2	1			134	9 52.8	26.01
30 θ Leo	5	3.5	0.0	-6			2000	10 07.3	16.76
32 α Leo	1	1.4	-1	1	-1	Regulus	77	10 08.4	11.97
36 ζ Leo	3	3.4	0.3	1	-1	Alidnafera	260	10 16.7	23.42
41 η Leo	3	2.0	1.1	-1		Algieba	125	10 20.0	19.84
47 θ Leo	3	3.8	-1	1	-6		3000	10 32.8	9.31
54 Leo	3	4.3	0.0	1	0		290	10 55.6	24.75
68 δ Leo	3	2.6	0.1	1	1	Zosma	58	11 14.1	20.52
70 ϕ Leo	3	3.3	0.0	1	0	Coxa	170	11 14.2	15.43
78 ι Leo	3	4.0	0.4	1	2		80	11 23.9	10.53
94 β Leo	2	2.1	0.1	1	2	Denebola	36	11 49.1	14.57

BINARY	Position	V-Mag	B-V	Te.	Sep.	PA	Vis.	VARIABLE STAR
2 ω Leo	5	5.9	6.5	0.6	0.6	11 ^o 0	0.6	R Leo []
						2015	0.8	Period = 312 d
32 α Leo	3	1.4	7.9	-1.0	9	175.9		Max. = 2451360
41 η Leo	3	2.3	3.5	1.1	1.1	4.7		Min. Max. = 180
54 Leo	3	4.5	6.3	0.0	0.1	6.6		Extrema 4.4-11.3
78 ι Leo	3	4.1	6.7	0.4	0.6	11 ^o 0	1.7	The period varies by a few days.

815 27 Leo 7-8 11 11 2015 1.7 - M66/67 Complex



Thanks to John Reising for Constellation of the Month.

Deep-Sky Objects for April

Objects for Binoculars							
RA	Dec	Number	Mag(s)	Size/Sep.	PA	Const.	Type of Object
09 ^h 41.2 ^m	+09°54'	14-Omicron	3.5, 9.5	85.4"	44°	Leo	Double Star
10 ^h 08.4 ^m	+11°58'	32-Alpha	1.4, 7.7	176.9"	307°	Leo	Double Star
10 ^h 16.7 ^m	+23°25'	36-Zeta	3.5, 5.8	325.9"	340°	Leo	Double Star
11 ^h 25.6 ^m	+16°27'	81 Leo	5.6, 9.2	55.7"	351°	Leo	Double Star
12 ^h 25 ^m	+26°0'	Mell 111	1.8v	4.6"		Leo	Open Cluster
Objects for Small Telescopes (2-6 inch)							
RA	Dec	Number	Mag(s)	Size/Sep.	PA	Const.	Type of Object
10 ^h 55.6 ^m	+24°5.8'	54 Leo	4.5, 6.3	6.5"	110°	Leo	Double Star
11 ^h 5.8 ^m	+00°02'	NGC 3521	m9.0v	12.5'x6.5'		Leo	Galaxy
11 ^h 18.9 ^m	+13°05'	M65	m9.3v	8.7'x2.2'		Leo	Galaxy
11 ^h 31.7 ^m	+14°22'	88 Leo	6.4, 8.4	15.4"	328°	Leo	Double Star
11 ^h 20.2 ^m	+12°59'	M66	m8.9v	8.2'x3.9'		Leo	Galaxy
Objects for Medium-Size Telescopes (8-14 inch)							
RA	Dec	Number	Mag(s)	Size/Sep.	PA	Const.	Type of Object
10 ^h 20.0 ^m	+19°51'	41-Gamma	2.2, 3.5	4.4"	125°	Leo	Double Star
10 ^h 20.3 ^m	+13°36'	NGC 3628	m9.5v	14.0'x4.0'		Leo	Galaxy
10 ^h 44.0 ^m	+11°42'	M95	m9.7v	7.8'x4.6'		Leo	Galaxy
10 ^h 46.8 ^m	+11°49'	M96	m9.2v	6.9'x4.6'		Leo	Galaxy
10 ^h 47.7 ^m	+13°59'	NGC 3377	m10.4v	4.1'x2.6'		Leo	Galaxy
10 ^h 47.8 ^m	+13°25'	M105	m9.3v	3.9'x3.9'		Leo	Galaxy (with NGC3384 & 3389)
Objects for Larger Telescopes (16-inch & larger) Challenge Objects							
RA	Dec	Number	Mag(s)	Size/Sep.	PA	Const.	Type of Object
09 ^h 48.6 ^m	33°25'	NGC 3003	m11.9v	5.2'x1.6'		Lmi	Galaxy
10 ^h 13.8 ^m	+38°46'	NGC 3158	m11.9v	2.3'x2.2'		Lmi	Galaxy (In Group)
10 ^h 29.3 ^m	+29°30'	NGC 3254	m11.7v	4.9'x1.4'		Lmi	Galaxy
10 ^h 49.8 ^m	+32°59'	NGC 3395	m12.1v	1.6'x0.9'		Lmi	Galaxy, 3396 attached
10 ^h 50.9 ^m	+13°25'	NGC 3412	m10.5v	3.3'x2.0'		Leo	Galaxy
11 ^h 16.9 ^m	+18°03'	NGC 3607	m9.9v	4.6'x4.1'		Leo	Galaxy,(with 3605, 3608)
11 ^h 34.7 ^m	+16°48'	90 Leo	6.0, 7.3, 8.7	AB 3.3 AC 63.1	209° 234°	Leo	Double Star

Print and use the [Deep-Sky Interest Group - Observation Form](#) to record your observations.

Thanks to Len Jezior for deep sky objects chart.

Mounting Concern:

Has anyone ever had any first hand knowledge/experience with Optic-Craft GEM Mounts? If so, contact Denny Bodzash at dabodzash@gmail.com



Sun pillar.

Photo by Denny Bodzash

Anti-Time-Change Feelings on the Rise in the U.S.

Last month brought another dreaded twice a year time change, with the overnight of March 10-11 seeing the 2 a.m. hour disappear as we once again sprang forward. And, in another time-honored tradition, people all across the country complained. However, come 2019, some people in high places seem to be listening.

Both Florida senators, Marco Rubio and Rick Scott, have introduced a bill in the U.S. Senate to end the time changes and put the United States on permanent Daylight Savings Time. Appropriately, as befitting its Florida origins, the bill is called the Sunshine Protection Act. However, for it to become law, the Senate bill must pass with 60 votes and a similar bill

must be introduced and passed by simple majority in the House. A conference committee would then work to create a single bill that would then need to pass both houses before being sent onto the president.

For his part, President Trump has signaled his support for getting rid of the time change, Tweeting that “making Daylight Savings Time permanent is OK with me” on the first Monday following the shift, a day that has been informally dubbed “Sleepy Monday” across the country.

As of this writing, 26 individual states have pending legislation that would kill the time change by adopting year round Standard or DST. Unfortunately, herein arises a problem that only an act of Congress can solve

Congress passed the Uniform Time Act in 1966, which standardized the length of the time shift at 1 hour and the days on which the shifts were to take place. However, it still did not require states to observe DST. Currently, two states--Arizona and Hawaii--do not observe DST. On the other hand, the law did not allow states to opt for a year long DST, which would require federal law to be rewritten.

However, some state legislatures have been thinking outside the proverbial box for a way around this problem. The solution? Shift a state from its present time zone to one time zone East during the time Standard Time is observed, thus creating a de-facto year-long DST. The rising tide against time changes is undoubtedly being spurred by ordinary peoples' access to mass media platforms, which give members of the public a forum as never before seen to complain to the wider world. Where will this debate lead? Will our national leaders finally reconsider the need to change the clocks twice a year? Appropriately, only time will tell.

~Denny Bodzash

Rumor: Lumicon to Introduce Cloud Filters

Well, the long-considered impossible dream for astronomers has come true: cloud filters that negate the effect of clouds, thus allowing observations to be done in truly all weather conditions, have been invented.

Thanks to a hack, it has been revealed that Lumicon will soon introduce the first in its new line of “H₂O” filters, the Lumicon H₂O Orange, H₂O referring to the water vapor that makes up the star-blocking clouds and orange referring to the common cloud color in highly light polluted locations. The H₂O Orange filter blocks out, in addition to clouds, both mercury and sodium light pollution. Needless to say, the marriage of a water vapor and light pollution blocking filter technology was considered, by many, to be an impossible task. However. The wizards at Lumicon have delivered the goods.

By year's end, Lumicon hopes to come out with two more cloud filters that are optimized for true dark sky through the clouds viewing and another filter for medium levels of light pollution. These filters are to be called the H₂O Black (dark skies) and H₂O Gray (semi-dark skies).

The current city cloud filter is expected to hit stores next month at a retail price of \$199.99 for the 1.25" version and \$299.99 for the 2" version. For more detailed information [go here](#).



~Denny Bodzash