

Newsletter of
The Black River Astronomical Society

Guidescope

Lorain County, Ohio

December 2018

Website: blackriverastro.org

Newsletter submissions: [Editor](#)

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--Wednesday, December 5, 7 p.m.: **Holiday Potluck**, Beaver Creek Reservation, 913 N. Lake St., Amherst (on east side of Lake St. just south of the Route 2 Oak Point Road ("North" North Lake St.) exit. Bring a dish to pass, and your own plates/sporks/napkins/beverages.

--Thursday, December 13, 7 p.m.: Board meeting, Blue Sky Restaurant, Amherst, OH

--Friday, December 14, 8-10 p.m.: Public Observing, Nielsen Observatory (cloud backup Saturday, December 15)

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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.

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

BOARD SUMMARY November 15, 2018

The November meeting of the Black River Astronomical Society Board of Directors was called to order at 7:04 p.m. with eight Directors present. Secretary Bill Ruth provided minutes of the October meeting for members to review and the minutes were approved as read. The Treasurer, Dan Walker, next provided the Treasurer's Report. Committee reports followed with the *Guidescope* editor, Bill Ruth, reporting that all was well. The website committee reported that the club site seemed to be operating well. Tim Kreja reported that the Clear Sky Chart did not seem to be updating on his phone, but no one else seemed to be having an issue. Instrumentation chairman John Reising reported that the equipment seemed to be in good shape. However, Kreja reported that the visual back on the black C-14 only had one set screw and heavy eyepieces were rotating. He found the original visual back and put that in place, but that also seemed to be weak. The visual back was removed when the scope was sent to Celestron for cleaning, and we may need to tweak the two that we have so they operate correctly. The OTAA committee had no report. The MetroParks liaison, Steve Schauer, reported that we received a letter from the LCMP thanking us for our \$2500 donation which will be used for building a storage building next to the observatory, construction of which, will start in the Spring.

 Programing for 2019 is as follows:

January	an astronomy video	
February	Open	
March	Dave Lengyel	Observing trip to Parump.
April	Tim Kreja	Colonization of Mars
May-November		Open
December	Annual Holiday Pot Luck	

Under Old Business, the first item was a discussion of a revised Solar Observing schedule. When we set our initial schedule, we did not have dates for two MetroParks events at which we usually do solar viewing. We now have those dates and have had to revise our original schedule slightly. For several years, the LCMP has had a Paddle and Pedal Festival in May at Lakeview Park in Lorain. After a couple of successful events, the last several years have had poor weather with cold, wind and sometimes snow, which required many activities to be cancelled. This year, the Adventure Fest, which is usually held in August, will be held in May. The Adventure Fest is held in the Mill Hollow Reservation, where there are two buildings and several large shelters that can be used in case of inclement weather. The festival will be Saturday May 18th from 10:00-3:00, and we will do solar viewing and hand out club materials. Then, in place of the Adventure Fest in August, the Parks will host a new event in September. This will be called the Sunset Beach Festival and will be held at Lakeview Park from 4:00-

9:00. We hope to do solar viewing there and perhaps some early nighttime viewing (moon, planets) as well. The other dates are as noted last month. Thus here are the revised dates:

May 18 Saturday	Adventure Fest at Mill Hollow	10:00-3:00
June 30 Sunday	Sandy Ridge Reservation	1:00-4:00
July 28 Sunday	Sandy Ridge	1:00-4:00
Aug. 17 Saturday	Sunset Beach Festival	4:00-9:00
Sept. 22 Sunday	Sandy Ridge	1:00-4:00
Oct. 27 Sunday	Sandy Ridge	1:00-4:00

The final item of old business was a discussion about sending out a member survey to allow us to get feedback from club members even if they are unable to make many meetings. Schauer read a list of sample questions, to which the Board offered suggestions. Lee Lumpkin has kindly offered a suggestion on how the survey could be generated, emailed to members who could answer questions right on the survey and then hit “Reply” to submit their survey. We will continue to plan this.

Next came New Business. The first item was a suggestion that long time member Larry Janowicz be made a Fellow Member of the organization. It was moved and seconded to do this and the vote was unanimous. Mickey Hasbrook will create the certificate, Dan Walker will donate a frame, and once Schauer has signed the certificate, it will be mailed to Larry in recognition of his many years of service to the club.

The second item of New Business was a discussion of the club dues structure. We have recently had some larger than normal expenses, and are discovering that revenue is becoming a problem. For many years, dues have been \$25.00 with retired (65+ and no longer working) set at \$10.00. As our club ages, and more people are paying the \$10.00 dues, revenue is falling behind. The By-Laws call for a vote of the members to change the dues categories, but the dues for each category are at the Board's discretion. We will make no change this year, as more than half of our members have already paid, but the Board voted to change our dues for next year, starting in October of 2019. We will lower Adult dues from \$25 to \$20, and raise Senior dues to the same \$20. That way everyone pays the same amount, \$20.00, except Junior members (under 16 years of age) whose dues will remain at \$10.00.

The final item of business was the always enjoyable duty to accept a new member. The Board welcomes Laura Goyanes to our ranks!

December dates were set, and the meeting was adjourned at 8:35 p.m.

~Steve Schauer

Could Cigar-Shaped Interstellar Object be Alien Craft?

Last year, a cigar-shaped interstellar object zipped through the inner solar system at nearly 100,000 mph. Now, more than a year after it made its pass, scientists are still debating comet or asteroid. However, some scientists willing to go out on a limb have made a more exotic speculation as to what the object, named *Oumuamua*, might be: an alien craft.

In a study conducted by scientists from various institutes titled 'Could Solar Radiation Pressure Explain *Oumuamua*'s Peculiar Acceleration,' scientists speculate that the object's unexpected acceleration and change in direction could have been caused by a solar sail. Solar sails are a hypothetical way to travel long distances without the need of conventional fuel, utilizing solar radiation to push a craft through space. The drawback: it takes a long time to get going.

In another study written for the European Space Agency's Space Situational Awareness Near Earth Object Coordination Centre, located in Frascati, Italy, scientists also noted abnormalities in *Oumuamua*'s movements. Study author Mario Micheli stated that “our high precision measurements of *Oumuamua*'s position revealed that there was something impacting its motion other than the gravitational forces of the Sun and planets.”

Both studies go on to suggest that *Oumuamua* may be an alien probe, wreck, or even a fully operational craft.

However, not all are convinced.

Writing for NASA's Jet Propulsion Laboratory, Davide Farnocchia explained that the seemingly strange motions from the interstellar visitor could be explained in a much more conventional way via out-gassing of ices on and within the object caused by the warming rays of the Sun.

To date, *Oumuamua* is the only interstellar object ever observed to have passed through the solar system, which makes study difficult. However, it is known that solar systems regularly eject objects into interstellar space. This usually happens when a small object has a too-close encounter with a large one. Some studies have suggested that there could be at least 100 planets wandering through interstellar space for every single star in the galaxy.

Asteroid? Comet? Alien craft? Who knows. Regardless of what it may be, we do know this: *Oumuamua* is one interesting object.

~Denny Bodzash

N6 — Northern Sky — Winter Constellations

NEBULA Position V-Mag. Size Shape Type Vis. Dist. R.A. Dec.

1912 M38	Aur	04	12/0'	20	0 m	OC	⊗	4000ly	5 ^h 28.7	35.83	
1931	Aur	10	11	2.5	0 Em	DN	⊗	6000	5.31.4	34.23	
1960 M36	Aur	06	6	12	15	0 m	OC	⊗	4000	5.36.1	34.13
2099 M37	Aur	04	6	12	25	0 r	OC	⊗	4000	5.52.4	32.53
2281	Aur	05	6	12	20	0 p	OC	⊗	2000	6.49.3	41.07

1912 M38 Partially resolved in binoculars, interesting grouping of faint stars.
 1931 Small faint diffuse nebula, imbedded stars visible at high power.
 1960 M36 Some stars resolved in binoculars, about 60 stars in a telescope aligned along arms, deficiency of faint stars, central condensation.
 2099 M37 Binoculars show a large oval glow, which turns into an amazing number of stars in a telescope, a yellow mag. 9.1 star is centered.
 2281 A few bright, irregularly scattered stars in binoculars, oval core.

STAR Position V-Mag. B-V Tr. Abs. Name Dist. R.A. Dec.

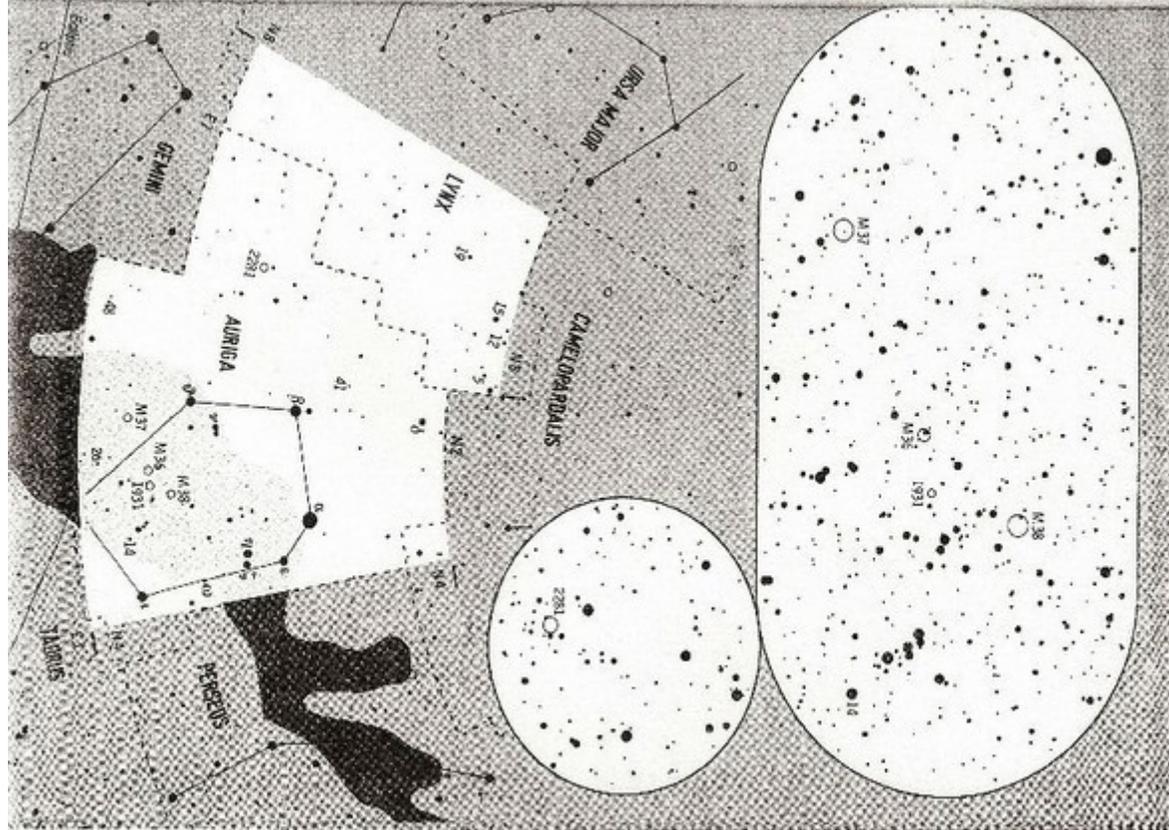
3	♈	Aur	2.7	1.5	-3	.....	500ly	4 ^h 57.0	33.17
4	♈	Aur	4.9	0.0	1	.....	160	4.59.3	37.89
7	♈	Aur	3.0-3.8	0.5	-7	.....	3000	5.02.0	43.82
8	♈	Aur	3.7-4.0	1.2	-3	.....	800	5.02.5	41.08
10	♈	Aur	3.2	-2	-1	.....	220	5.06.5	41.23
14	♈	Aur	4.9	0.2	0	.....	270	5.15.4	32.69
13	♈	Aur	0.1	0.8	1	.....	42	5.16.7	46.00
26	♈	Aur	5.4	0.4	1	.....	450	5.38.6	30.49
32	♈	Aur	4.0	1.1	0	.....	220	5.51.5	39.15
33	♈	Aur	3.7	1.0	1	.....	140	5.59.5	54.28
34	♈	Aur	1.9	0.1	0	.....	82	5.59.5	44.95
37	♈	Aur	2.6	-1	-1	.....	175	5.59.7	37.21
41	♈	Aur	5.8	0.1	1	.....	300	6.11.6	48.71
5	♈	Lyn	5.1	1.5	2	.....	650, 1500	6.26.8	58.42
48	♈	Aur	4.9-5.8	0.7	-4	FTT	Aurigeo. 2000	6.28.6	30.49
12	♈	Lyn	4.8	0.1	1	.....	230	6.46.2	59.44
15	♈	Lyn	4.4	0.6	1	.....	170	6.57.3	58.42
19	♈	Lyn	5.3	-1	1	.....	500	7.22.9	55.29

BINARY Position V-Mag. B V Tr. Sep. P.A. Vis.

4	♈	Aur	5.0	8.0	0.0	0.5	||	4.9	.....
14	♈	Aur	5.0	7.9	0.2	0.4	||	14.3	.....
37	♈	Aur	2.7	7.1	-1.1	0.5	||	3.6	.....
41	♈	Aur	6.2	7.0	0.1	0.2	||	7.6	.....
5	♈	Lyn	5.2	7.8	1.5	1.1	||	95	.....
12	♈	Lyn	4.9	7.2	0.1	0.3	||	8.9	.....
19	♈	Lyn	5.4	6.0	0.1	0.1	||	11.0	1.8

VARIABLE STAR

7	♈	Aur	.....	.....	.....	.....	.....	.....	.....
Min.	.....	.....	.....	.....	.....	.....	.....	.....	.....
Eclipse	22 months	.....	.....	.....	.....	.....	.....	.....	.....
8	♈	Aur	.....	.....	.....	.....	.....	.....	.....
Period	.....	.....	.....	.....	.....	.....	.....	.....	.....
Min.	.....	.....	.....	.....	.....	.....	.....	.....	.....
48	♈	Aur	.....	.....	.....	.....	.....	.....	.....
Period	.....	.....	.....	.....	.....	.....	.....	.....	.....
Max.	.....	.....	.....	.....	.....	.....	.....	.....	.....



Thanks to John Reising for Constellation of the Month.

Deep-Sky Objects for December

Objects for Binoculars							
02 ^h 19.0 ^m	+57° 09'	NGC 869	5.3v	29'		Per	Open Cl 200• Double Cluster
02 ^h 22.4 ^m	+57° 07'	NGC 884	6.1v	29'		Per	Open Cl 115• Double Cluster
02 ^h 42.0 ^m	+42° 47'	M34	5.2v	35'		Per	Open Cluster 60•
05 ^h 03.4 ^m	+60° 27'	Beta	4.0, 8.6	80.8"	208°	Cam	Double Star
05 ^h 06.1 ^m	+58° 58'	11 & 12 Cam	5.4, 6.5	108.5"	8°	Cam	Double Star
05 ^h 44.5 ^m	-22° 27'	Gamma	3.7, 6.3	96.3"	350°	Lep	Double Star
Objects for Small Telescopes (2-6 inch)							
RA	Dec	Number	Mag(s)	Size/Sep.	PA	Const.	Type of Object
04 ^h 07.0 ^m	+60° 55'	NGC 1501	11.5v	51"		Cam	Planetary Nebula
04 ^h 07.7 ^m	+62° 20'	NGC 1502	5.7v	7'		Cam	Open Cluster 45•
06 ^h 18.7 ^m	+78° 21'	NGC 2146	10.6	5.4'x4.5'		Cam	Galaxy
05 ^h 14.5 ^m	-08° 12'	Beta	0.1, 6.8	9.5"	202°	Ori	Double Star Rigel
06 ^h 08.4 ^m	+13° 57'	NGC 2169	5.9v	6'		Ori	Open Cluster 30•
07 ^h 27.1 ^m	+80° 11'	NGC 2336	10.4v	6.4'x3.3'		Cam	Galaxy
Objects for Medium Telescopes (8-14 inch)							
RA	Dec	Number	Mag(s)	Size/Sep.	PA	Const.	Type of Object
04 ^h 32.8 ^m	+78° 53'	NGC 1560	11.4v	9.2'x1.7'		Cam	Galaxy
05 ^h 24.5 ^m	-24° 33'	M79	7.8v	8.7'		Lep	Globular Cluster
05 ^h 46.7 ^m	+00° 03'	M78		8'x6'		Ori	Emis. & Refl. Nebula
05 ^h 27.5 ^m	-12° 42'	IC 418	9.3v	12"		Lep	Planetary Nebula
05 ^h 33.4 ^m	-21° 57'	NGC 1964	10.7v	5.0'x2.1'		Lep	Galaxy
07 ^h 28.9 ^m	+69° 13'	NGC 2366	10.8v	8.2'x3.3'		Cam	Galaxy
Objects for Larger Telescopes (16-inch & larger) Challenge Objects							
RA	Dec	Number	Mag(s)	Size/Sep.	PA	Const.	Type of Object
03 ^h 46.8 ^m	+68° 06'	IC 342	8.4v	22.0'x22.0'		Cam	Galaxy
05 ^h 00.0 ^m	-26° 01'	NGC 1744	11.3v	5.1'x2.5'		Lep	Galaxy
05 ^h 06.9 ^m	-03° 21'	NGC 1788		5'x3'		Ori	Reflection Nebula
05 ^h 42.1 ^m	-09° 05'	NGC 2022	11.9v	11.9v		Ori	Planetary Nebula
06 ^h 13.8 ^m	+12° 48'	NGC 2194	8.5v	8'		Ori	Open Cluster 80•
07 ^h 36.9 ^m	+65° 36'	NGC 2403	8.5v	25.5'x13.0'		Cam	Galaxy

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

Thanks to Len Jezior for Deep Sky Object charts.



10/22/18

Black River Astronomical Society of Lorain County
c/o Daniel Walker
4375 Meadow Lark Drive
Lorain, OH 44053

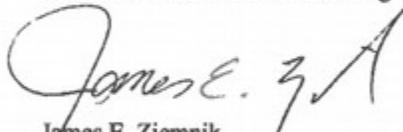
Dear Daniel,

On behalf of the Board of Park Commissioners and the staff of the Lorain County Metro Parks, I would like to thank you for your recent donation. Your gift will be used toward the construction of a new storage unit at the Nielson Observatory.

Donation Date: 10/19/18
Donation Number: 18-0292
Donation Amount: \$2500.00

Once again, our thanks for supporting Lorain County Metro Parks.

With best wishes and our sincere gratitude,



James E. Ziemnik
Director/Secretary

JEZ/ds

Files: A8
Donation File

In accordance with IRS regulations, we note that the Lorain County Metro Parks was established under Ohio Revised Code 1545 and is a tax-exempt organization, and that no goods or services were exchanged for your contribution, which is tax-deductible to the fullest extent allowable by law.

**Board of Park
Commissioners**
Sherrill M. McLoda
Joseph E. Hribar
Kenneth M. Lieux

12882 Diagonal Road
LaGrange, Ohio 44050

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(TDD or Voice)
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www.MetroParks.cc

**Congratulations to the InSight team for an amazing mission!
May the Marsquakes be many and revelatory.**

First picture from Mars

