

Lorain County, Ohio

December 2020

Website: blackriverastro.org

Newsletter submissions: Editor



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--Wednesday, December 2, 7 p.m.: **Holiday Zoom Hangout**

--Thursday, December 10, 7 p.m.: Board meeting on Zoom

--There are no public observing sessions in December due to the pandemic.

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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. ■

SPECIAL DECEMBER GENERAL MEETING

We normally have our December General Meeting at the Lorain County Metro Parks Beaver Creek Reservation and we have a pot luck dinner. This year due to the pandemic and the huge surge in COVID infections, we will NOT be meeting face to face.

Instead we are going to meet using the Zoom meeting app, as we have been doing, but we will try to carry on the food aspect of our December meeting. The plan is to have an Observers Calendar and Constellation of the month report and then spend the rest of the meeting socializing and eating. We are suggesting that members bring their favorite dessert and a beverage of their choice (adult or not) and enjoy them as we chat. While this won't be the same as a face-to-face potluck, we hope it will be a pleasant evening.

So, PLEASE JOIN US ON ZOOM Wednesday Dec. 2nd at 7:00 p.m. for a dessert social hour.

~Steve Schauer

BOARD SUMMARY

November 12, 2020

The November meeting of the Board of Directors was called to order at 7:13 p.m. with nine Directors present. The minutes of the October Board meeting had been previously emailed to Directors by Secretary Bill Ruth so the minutes were approved by a unanimous vote as written. Next came Dan Walker's Treasurer's Report. The balance brought forward was \$5,653.94. There was income of \$220.00 from dues and no expenses yielding a closing balance of \$5,873.94. Club members are reminded that dues were payable in October. Please print out a membership form from the website BlackRiverAstro.org and mail it with a check for \$20 to Dan Walker, whose address is on the membership form. The Instrumentation committee chairman, John Reising, had no report as the observatory remains unused due to COVID. The OTAA committee chair reported that he has two OTAA convention dates for 2021: CAA will be Saturday, July 31 and BRAS will be Saturday, Sept. 4th. The Metro Parks Liaison had no report.

We have made some progress in scheduling programs for our General Meetings, but we still have several months open and members are encouraged to consider presenting a program at one of our meetings. Currently we are meeting via the Zoom meeting app, but hopefully that will change in late spring or early summer. We need programs geared for novice astronomers as well as for the more advanced observers. Here are the programs scheduled so far:

December	Dessert and wine holiday meeting over Zoom	
January	Jeff Woytach from NASA	The OSIRUS-Rex mission
February	Dave Lengyel	Globular Clusters
March	John Reising	Planetary Nebulae
April	OPEN	
May	Dan Walker	Naked Eye and Binocular Asterisms
June	Mike Garrett	The Galilean Moons of Jupiter
July	Tim Kreja	The History of Reflecting Telescopes
August-November	OPEN	

Next came Old Business, with two items of discussion. The first was the need for mounting rings for the 16" Newtonian telescope. The scope is currently mounted using straps that work well enough to secure the scope to the mount, but make it hard to rotate the tube to put the eyepiece in a comfortable position. We can purchase professionally made rings for this telescope for around \$300. Rotating rings would be ideal, but would likely triple the price if they can be found. John Reising will contact Greg Cox, a master machinist and tool and die maker, to see if he could fabricate rotatable rings for us.

The second item was a brief discussion of purchasing eclipse glasses for the upcoming total solar eclipse which will pass directly over Ohio on April 8, 2024. For the last eclipse which was only a partial in Ohio, we sold between 1,500 and 2,000 pairs of glasses. Since this eclipse will be a total, we anticipate even greater interest. While we have time, it might be wise to buy before the prices rise closer to the event. Board members suggested buying anywhere from 3,000 to 5,000 pairs. We will discuss this again.

There was only one item of New Business, which was to select Public Observing dates for 2021. Due to concerns about poor weather and the pandemic, it was decided not to schedule any star parties in January, February, or March. We can always add dates or use impromptu observing sessions during these months should we so desire. While we did select dates for June and August, we may need to change these so we do not conflict with the CVAS or MVAS OTAA conventions usually held then. We expect to have their OTAA dates very soon.

Here are the Public Observing dates selected for 2021:

April	Friday/Saturday 9 th /10 th	9:00-11:00 p.m.
	Friday/Saturday 16 th /17 th	9:00-11:00 p.m.
May	Friday/Saturday 7 th /8 th	9:00-11:00 p.m.
	Friday/Saturday 14 th /15 th	9:00-11:00 p.m.

June	Friday/Saturday 11 th /12 th Friday/Saturday 18/19 th	10:00-midnight 10:00-midnight	(may need to modify for CVAS OTAA)
July	Friday/Saturday 9 th /10 th Friday/Saturday 30 th /31 st	10:00-midnight 10:00-midnight	
August	THURSDAY 12 th Friday (back-up) 13 th Friday/Saturday 27 th /28 th	10:00-midnight 10:00-midnight 10:00-midnight	(Perseid Meteor Shower Party) (may need to modify for MVAS OTAA)
September	Friday/Saturday 10 th /11 th Friday/Saturday 24 th /25 th	9:00-11:00 p.m. 9:00-11:00 p.m.	
October	Friday/Saturday 1 st /2 nd Friday/Saturday 15 th /16 th	8:00-10:00 p.m. 8:00-10:00 p.m.	(Dates chosen to avoid conflicting with the LCMP Halloween programs)
November	Friday/Saturday 5 th /6 th	8:00-10:00 p.m.	(Single dates chosen due to expected poor weather)
December	Friday/Saturday 10 th /11 th	8:00-10:00 p.m.	

Solar Observing dates will be chosen by Steve Schauer and will be published at a later date. We usually do solar observing on Sunday afternoons starting in May and ending in October.

December dates were set, and the meeting was adjourned at 8:14 p.m.

~Steve Schauer

SOLAR OBSERVING DATES FOR 2021

We have selected Solar Observing dates for 2021, in the hope that the COVID-19 virus is abated enough to safely have face-to-face events by then. These are subject to change. We participate in two festivals conducted by the Lorain County Metro Parks every year, and since we do solar observing there, we count those as one of our monthly sessions. These festival dates are tentative and will likely be scaled down from the usual for 2021.

SATURDAY	May 22	10:00-3:00 p.m.	Adventure Fest Mill Hollow Reservation
SUNDAY	June 13	1:00-4:00 p.m.	Sandy Ridge Reservation
SUNDAY	July 11	1:00-4:00 p.m.	Sandy Ridge Reservation
SATURDAY	Aug. 14	5:00-8:30 p.m.	Sunset Beach Festival Lakeview Park
SUNDAY	Sept. 12	1:00-4:00 p.m.	Sandy Ridge Reservation
SUNDAY	Oct. 10	1:00-4:00 p.m.	Sandy Ridge Reservation

To the membership of BRAS:

I am sad to inform you of the death of my husband Fred J. Scharmman on November 7, 2020.

Membership in your organization was one of the many enjoyments of his life and his star gazing times gave him much pleasure.

Sincerely,
Carol Scharmman

<https://buschfuneral.tributes.com/obituary/show/Fred-J.-Scharmman-108499981>

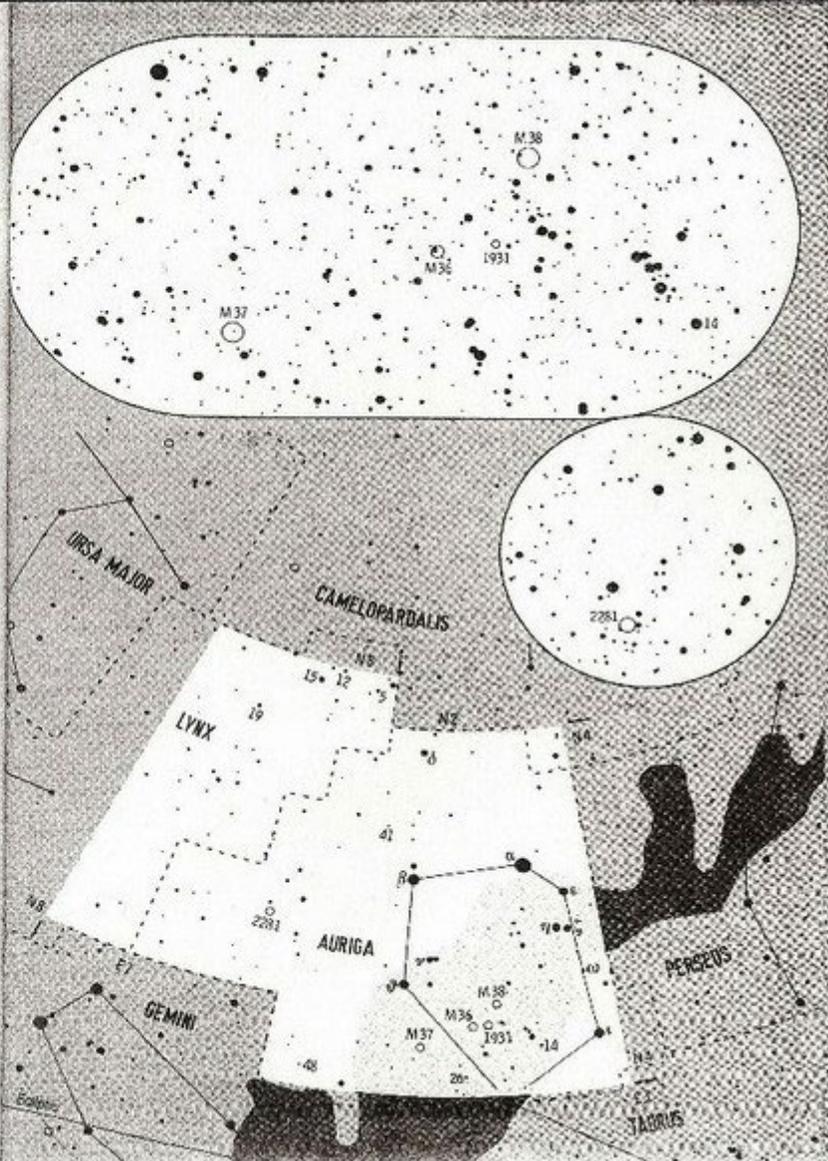
N6 Northern Sky Winter Constellations

NEBULA	Position	v-Mag.	Size	Shape	Type	Vis.	Dist.	R.A.	Dec.
1912 M38	Aur	6	12/17	20	o m	OC	4000ly	5 28.7	35.83
1931	Aur	10	11	2.5	o Em	DN	6000	5 31.4	34.23
1960 M36	Aur	6	12	15	o m	OC	4000	5 36.1	34.13
2099 M37	Aur	6	12	25	o r	OC	4000	5 52.4	32.53
2281	Aur	6	12	20	o 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	Tc.	Abs.	Name	Dist.	R.A.	Dec.
3	Aur	2.7	1.5	-3	500ly			4 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	1	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	0	42	Capella		5 16.7	46.00
26	Aur	5.4	0.4	0	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	Menkalinan		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	2000	RT Aurigae		6 28.6	30.49
12	Lyn	4.8	0.1	1	230			6 46.2	59.44
15	Lyn	4.4	0.8	1	170			6 57.3	58.42
19	Lyn	5.3	-1	-1	500			7 22.9	55.20

BINARY	Position	V-Mag.	B	V	Tc.	Sep.	PA	Vis.	VARIABLE STAR
4	Aur	5.0	8.0	0.0	0.5	11	4.9	•	7 c Aur
14	Aur	5.0	7.9	0.2	0.4	11	14.3	•	Min. July 2010
37	Aur	2.7	7.1	-1	0.5	11	3.6	•	Eclipse 22 months
41	Aur	6.2	7.0	0.1	0.2	11	7.6	•	8 c Aur
5	Lyn	5.2	7.8	1.5	1.1	95	•	•	Period 972.2 d
12	Lyn	4.9	7.2	0.1	0.3	11	8.9	•	Min. 2451997
		5.4	6.0	0.1	0.1	11	0	1.5	Eclipse 40 days
									48 RT Aur
19	Lyn	5.4	7.6	-1	0.0	11	213.5	•	Period 3.7261 d
		5.8	6.8	-1	0.0	11	14.8	•	Max. 2451200.9



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.

ASTRONOMY FUN FACTS

- Mercury and Venus are the only planets in our solar system with no moons.
- There are over one million pieces of space junk orbiting the Earth.
- Uranus is the only planet that rotates on its side, perhaps due to a cosmic collision.
- Neutron stars can spin at a rate of over 600 revolutions per second.
- Ceres is the largest asteroid in our solar system. It is over 600 miles in diameter and has a surface area approximately equal to the land area of India or Argentina.

~Steve Schauer



~Photo by Dave Lengyel

In the Field

Most of my observing has been from the backyard, surrounded by tall trees and tall houses, to avoid the worst of the glare from streetlights and security lights. It's a limited patch of sky, but I've learned to live within its limitations over the last 20-odd years we've been here.

To the north is, or was, an old elementary school, in the center of Harmon Field, property that was donated to the town 100 years ago to be used in perpetuity for children's play.

The school building, long closed as a public school but repurposed for other organizations, featured all the classic sources of light pollution: a high-pressure-sodium floodlight, a mercury vapor security light, and 24/7 fluorescent lights from its interior. Those, plus LED streetlights and the trees and houses, made backyard observing challenging.

This year the old school was demolished as part of the town's public school expansion project, and Harmon Field is now an open field. All the security lights are gone, and the field has become a designated daytime practice field for local sports.

The first clear night after the demolition fence was taken down I walked over to the field and took in the new panorama. Walking to the north side, there was a wide southern expanse, and a wide northern exposure was just a few steps from my house, as was the west, and with a few more steps, the east.

How lucky to suddenly, after many years, have so much open sky right next door, in town, without having to move. But if you could stay in any spot long enough, say, over centuries and millennia, all surrounding buildings will vanish.

Now the happy new problem is learning how to use the field at night without being too conspicuous, without arousing any undue concern of neighbors, passers-by, and law enforcement. So far, just nonchalantly moseying next door, tripod and binoculars over shoulder, seems to be working out just fine; no-one seems to notice, or care. The camouflage print bathrobe might be helping. I should wear pants though. Spraying the shiny tripod legs flat black is next: Ninja stargazing.

Still, I'd better be prepared for anything while out there, exposed and vulnerable and subject to being misperceived, so will carry a red light and a white light, a smartphone, photo ID, and some visible proof of being an amateur astronomer: star charts, and my Mercury Club card.

How good it is to now be able to spot a very young Moon low in the west, and a very old Moon rising low in the east, full of Earthshine, and seeing the real hemisphere that Stellarium only virtually suggests.

Harmon Field is technically school property, and, as a homeowner whose amply-taxed property is just on the other side of the chain link fence, could be considered part of my property, too. But until the mortgage is paid off, my property is really the bank's property.

Property--what a goofy concept. Who is the ultimate owner of anything, really?

The field is open space, the commons, which, like the universe--an endless unified field of energy--belongs to everyone and no-one. And there's nothing better than playing in the field, and resting in it.

~Bill Ruth