

Newsletter of
The Black River Astronomical Society

Guidescope

Lorain County, Ohio

July 2019

Website: blackriverastro.org

Newsletter submissions: [Editor](#)

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

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

Friday, July 19, 10-midnight: Public observing, Nielsen Observatory (cloud
backup date Saturday, July 20)

Friday, July 26, 10-midnight: Public observing, Nielsen Observatory (cloud
backup date Saturday, July 27)

--Sunday, July 28, 1-4 p.m.: Solar observing, Sandy Ridge Reservation

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

BOARD SUMMARY

JUNE 13, 2019

The June Board of Directors meeting was convened at 7:08 p.m. on June 13th with 10 Directors present. Minutes of the May meeting were read and approved as was the Treasurer's report. Committee reports followed, with Bill Ruth reporting that the *Guidescope* was status quo and the Website committee reporting no issues. Under Instrumentation, our 8" Discovery Dobsonian that we use as a loaner was returned by Ken Kopacz, who is moving to Florida. Good luck Ken...we will miss you! The 8" was then loaned to Dianna Richardson. John Reising reported that the family of Greg Honis donated his 10" Coulter Dobsonian to the club along with some eyepieces and books. John sent a thank-you note on behalf of the club. The 10" will be available for member use at the observatory after our new storage building is erected sometime in July

The OTAA Chairman reminded members of the OTAA dates for this year:

CVAS	Saturday June 29	at Observatory Park
MVAS	Saturday Aug. 24	at their observatory
CAA	Saturday Sept. 21	at Letha House Park
BRAS	Saturday Sept. 28	at Birmingham United Methodist Church

The Metro Parks Liaison had no new report.

Programming is as follows:

July	Tim Kreja	The Colonization of Mars
August	Jodi McCullough	Astrophotography
September	Steve Schauer	Survey Results and “How I Got Started in Astronomy” stories
October	Annual Meeting of the Members/Elections/video	
November	(tentative) Oberlin Planetarium and viewing from the observing deck	
December	Holiday Pot Luck at the LCMP Amherst Beaver Creek Reservation in Amherst	
January	OPEN	
February	OPEN	

Under Old Business, Schauer reported that 21 surveys were distributed to members who attended the June General Meeting. Surveys will again be distributed at the July and August meetings to people who were unable to attend in June. Schauer reported survey results gathered so far to the Directors. We will use these results to plan future activities and to plan future programs for our General Meetings.

Next came a discussion of the 70th anniversary of the club which we will celebrate at our OTAA convention in September. Plans include a reading of the club charter to illustrate that we are indeed fulfilling the aims of the organization, and information about the history of the club. We plan to have sheet cakes, probably one yellow cake with white frosting and one chocolate cake with chocolate frosting. We will also have more food choices than our usual hot dogs including pulled pork with sauce on the side. Members are invited to offer suggestions for our celebration.

Under New Business, based on the first survey results, Schauer suggested that we consider programs on:

- Astrophysics and theory including gravity waves, string theory, dark energy/matter.
- How to do Deep Sky Observing.
- History of Astronomy and seminal Astronomers.
- How to Build a Backyard Observatory.
- Astronomy apps and programs.
- Space Program.
- How to Observe the Moon and Planets.
- Professional Observatories.
- How to Use a telescope.

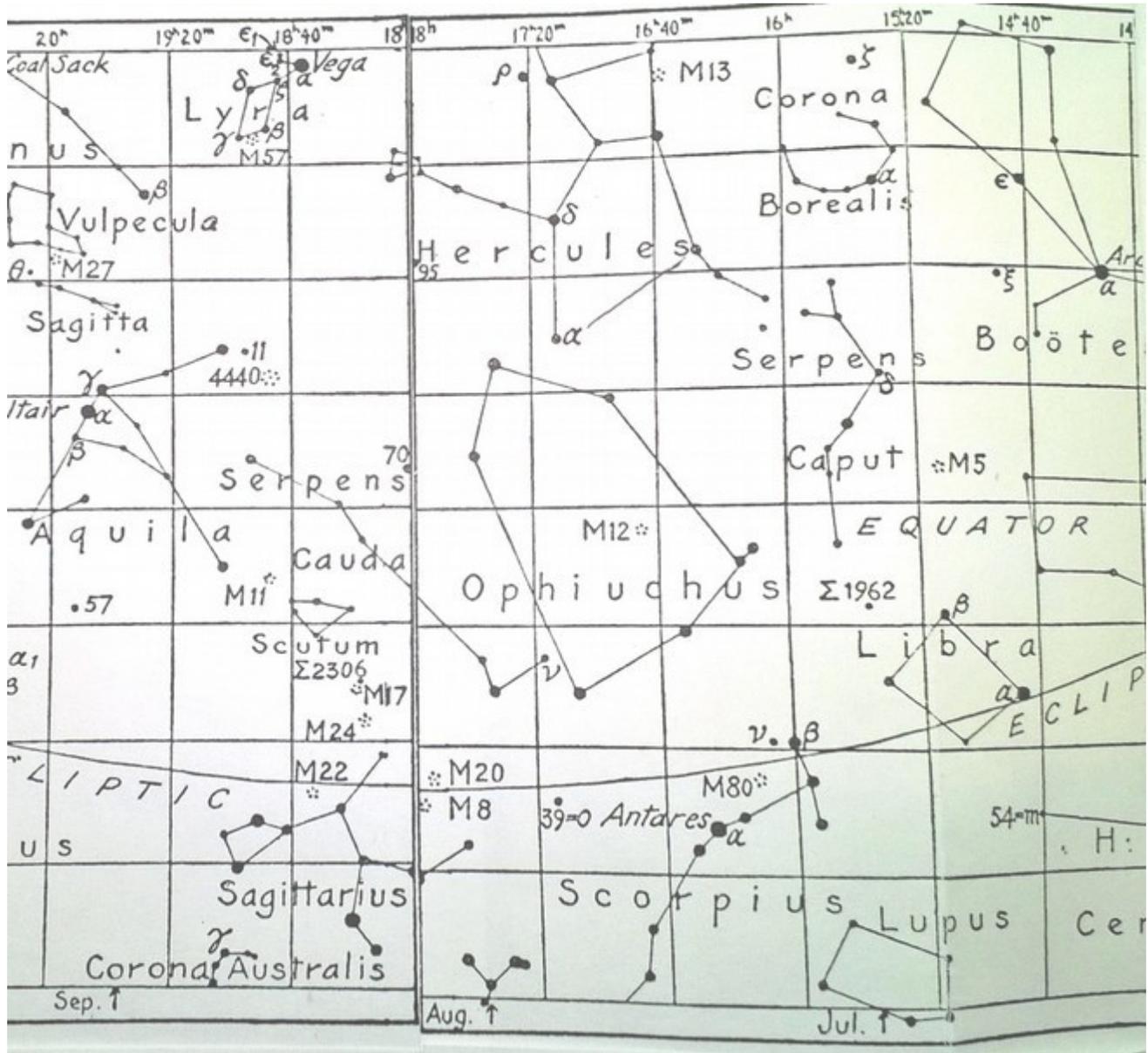
It was further suggested that some of the “How to...” programs could be recorded and the videos put on the website, perhaps on the Forum or on YouTube.

Dates were set, and the meeting was adjourned at 8:28 p.m.

~Steve Schauer

John Reising's Binary Beauties

Below is a star chart and a short table with the names, locations and specifications for some of the brightest and easiest binary stars visible in the **summer evening sky**.



The list includes the following:

ADS number: From the ADS double star catalog.

Name: Greek letters, (mostly), or numbers with constellation.

Star Magnitudes: Primary star first & companion star next.

Separation, (" = arc seconds): Distance between the primary and the companion star.

Included on the list are the following, which I consider as some of the absolute finest binary stars in the heavens:

(epsilon), e Bootes: First 2nd magnitude star up from Arcturus; One of my all time favorite binaries. Mags: 2.5 & 4.9; with a relatively close separation of 2.8 arc seconds and a stunning color contrast: orange primary & a greenish-white companion!! A real challenge for smaller scopes because of the glare and magnitude difference between the two;

(delta), d Serpens: A rather inconspicuous binary just below the head of Serpens; 2 white stars Mags: 4.1 & 5.2; with a 3.9 arc second separation.

(Beta), β Scorpio: The top star of Scorpio's claws; A blue-white / white pair of stars; Mags: 2.6 & 4.9 with an easy 13.7 arc second split;

(Nu), ν Scorpio: Just north east of Beta Scorp; A nifty double-double of white with the following mags & splits:

A-C	4.0 & 6.3	41.0 arc seconds
A-B	4.4 & 5.4	1.4 arc seconds
C-D	6.7 & 7.8	2.6 arc seconds

The A-B pair is especially challenging due to its low altitude.

(Alpha), α Scorpio: "Antares"! A magnificent pair of red and blue stars with considerable magnitude difference, (1.0 & 5.5), and a rather tight separation, (2.8 arc seconds); Perhaps the ultimate challenge from Ohio due to its low position in the sky;

(Alpha), α Hercules: A magnificent pair of yellow and red stars with considerable magnitude difference, (1.0 & 5.5), and a somewhat tight separation, (4.4 arc seconds). A challenge in small telescopes;

(Rho), ρ Hercules: Two Jewels!! A blue-white / white pair of 5th magnitude stars. Again, a challenge in even the small telescopes!

(Epsilon), ε Lyra: "The Double Double"! A stunning pair with a golden yellow primary coupled with a fainter blue-blue companion. As above, good in any size scope, although a little more of a challenge compared to the two above.

(Beta), β Cygnus: "Albireo": One of the most beautiful and easiest to locate double stars in the heavens. The bottom star of the "Northern Cross" part of Cygnus, Albireo sports a 3rd magnitude orange primary with a 5th magnitude blue companion at a large separation of 35 arc seconds.

(Gamma), γ Delphinus: The furthest left or tip star of the diamond shaped part of the small constellation of Delphinus above and left of bright Altair. A beautiful pair with a 4th magnitude yellow primary and a 5th magnitude white companion separated by 9 arc seconds.

Deep-Sky Objects for July

Objects for Binoculars							
RA	Dec	Number	Mag(s)	Size/Sep.	PA	Const.	Type of Object
18 ^h 03.8 ^m	-24° 23'	M8	6.8v (oc)	45'x30'		Sgr	"Lagoon Neb." + Cl. 113*
18 ^h 16.5 ^m	-18° 50'	M24	4.6v	95'		Sgr	Sm Sagittarius Star Cloud
18 ^h 36.4 ^m	-23° 54'	M22	5.1v	24'		Sgr	Globular Cluster
19 ^h 59.6 ^m	+22° 43'	M27	7.3v	348"		Vul	Pl. Neb. "Dumbbell Nebula"
18 ^h 51.1 ^m	-06° 16'	M11	5.8v	13'		Sct	"Wild Duck Cluster"
19 ^h 25.4 ^m	+20° 11'	Cr399	3.6v	60'		Vul	Cluster 40*, "Coathanger"
Objects for Small Telescopes (2-6 inch)							
RA	Dec	Number	Mag(s)	Size/Sep.	PA	Const.	Type of Object
18 ^h 02.3 ^m	-23° 02'	M20	-	20'x20'		Sgr	"Trifid Nebula"
18 ^h 20.8 ^m	-16° 11'	M17	Cl. 6.0v	20'x15'		Sgr	"Omega/Swan Neb" + Cl.
18 ^h 24.5 ^m	-24° 52'	M28	6.8v	11.2'		Sgr	Globular Cluster
18 ^h 45.2 ^m	-09° 24'	M26	8.0v	14'		Sct	Open Cluster 30*
18 ^h 53.6 ^m	+33° 02'	M57	8.8v	>71"		Lyr	Pl. Neb. "Ring Nebula"
19 ^h 08.8 ^m	+34° 46'	E2470	6.6, 8.6	13.4"	272°	Lyr	Double Star, w/E2474
19 ^h 09.1 ^m	+34° 36'	E2474	6.7, 8.8	16.2"	262°	Lyr	Double Star, w/E2470
Objects for Medium Telescopes (8-14 inch)							
RA	Dec	Number	Mag(s)	Size/Sep.	PA	Const.	Type of Object
16 ^h 04.4 ^m	-11° 22'	Xi Sco	4.8, 7.3	7.6"	51°	Sco	Double Star, w/E1999
18 ^h 18.4 ^m	-18° 25'	NGC 6603	11.1p	5.0'		Sgr	Open Cl. In M24
18 ^h 44.3 ^m	+39° 40'	Epsilon Lyr	5.1, 5.4	2.6", 2.3"		Lyr	"Double, Double" Star
19 ^h 16.6 ^m	+30° 11'	M56	8.3v	7.1'		Lyr	Globular Cluster
19 ^h 18.4 ^m	+06° 33'	NGC 6781	11.4v	109"		Aql	Planetary Nebula
19 ^h 52.2 ^m	+29° 25'	NGC 6834	7.8v	5'		Vul	Open Cluster 50*
19 ^h 53.8 ^m	+18° 47'	M71	8.0v	7.2'		Sge	Globular Cluster
Objects for Larger Telescopes (16-inch & larger) Challenge Objects							
RA	Dec	Number	Mag(s)	Size/Sep.	PA	Const.	Type of Object
18 ^h 17.6 ^m	+36° 46'	Eta Sgr	3.2, 7.8	3.6"	105°	Sgr	Double Star
18 ^h 31.4 ^m	+32° 21'	M69	7.6v	7.1'		Sgr	Globular Cluster
18 ^h 42.2 ^m	-32° 18'	M70	8.0v	7.8'		Sgr	Globular Cluster
18 ^h 55.1 ^m	-30° 29'	M54	7.6v	9.1'		Sgr	Globular Cluster
19 ^h 14.6 ^m	-02° 42'	NGC 6772	12.7v	>62"		Aql	Planetary Nebula
19 ^h 30.6 ^m	+20° 16'	NGC 6802	8.8v	3.2'		Vul	Open Cluster 50*
19 ^h 31.6 ^m	-09° 13'	NGC 6804	12.0v	31"x66"		Aql	Planetary Nebula

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

Select from a topic in the navigation bar on the left, or from the links below.

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Thanks to Len Jezior for the deep sky objects charts.

SUMMER OF SPACE

ANTIQUES ROADSHOW
Out of this World
 Monday July 8 8/7c

NOVA
Back to the Moon
 Wednesday July 10 8/7c

Ancient Skies
 Starts Wednesday July 24 8/7c

NOVA

AMERICAN EXPERIENCE
Chasing the Moon
 Starts Monday July 8 9/8c

**8 Days:
 To the Moon and Back**
 Wednesday July 17 9/8c

The Planets
 Starts Wednesday July 24 9/8c

AND MANY MORE!

THE JOURNEY BEGINS
 Monday July 8

wwiz
 ideastream

PBS

Thanks to Steve Schauer for the PBS flyer.



With all the wet weather and clouds, I was amazed that I was able to see Mercury and Mars near their closest last night, 6/18/19, about 0.2° apart. Mercury is the upper planet. ~Dave Lengyel