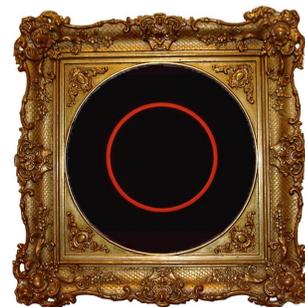




ASEM NEWSLETTER

JULY

2012



Annular eclipse Image
courtesy ASEM member
Grant Martin¹

Deep Sky Viewing Highlights This Month—July 2012 #1

By Steve Boerner



Some ASEM members were sitting around a table a few months ago and someone suggested that our newsletter needed a monthly article on objects to view. You've all seen this kind of article in *Sky & Telescope* or *Astronomy*, an article designed to get you out in the dark to see the monthly highlights and get you working on various Astronomical League Clubs. I thought it might be fun to put together such an article, tie it into what's visible from Broemmelsiek and what's on the Messier Video on M3 (pictured on the left) that will be shown at the July's General Meeting.

While Broemmelsiek has fairly dark skies, the glow of Chesterfield in the east does present problems. Objects are best when either in the west or near the meridian with less atmosphere to look through so I'll try to pick objects there. When you look at the list below, you'll think that I have a globular cluster fetish, but the ten objects below really happen to be well placed above the Milky Way to view close to the meridian at this time of year. Add to that we'll be watching the M3 video at the July meeting and that twenty-nine of the Messier objects are globular clusters, there really is a reason I chose these objects for this month.

If you are new to astronomy, you might want a bit of background on globular clusters.

Globular clusters are very large collections of metal poor stars that are satellites in the halo around our Milky Way Galaxy. They are groups of hundreds of thousands of very old stars which are **gravitationally** bound together. Globular clusters can contain between 10,000 and 1,000,000 stars in a compact volume as little as 200 light years in diameter. As a result, the stars in a globular cluster are tightly packed and very close together. About 160 of these globular clusters have been discovered and somewhere around 200 are thought to exist about our galaxy. We can also see them around other galaxies like M31. The majority of these globular clusters can be found in the constellations of Sagittarius, Scorpius, and Ophiuchus. This concentration is because it is in the direction of the center of our galaxy. Moderate telescopes are able to resolve individual stars in some of the nearer & larger globular clusters.

¹ We'd like to showcase your best work, submit your astrophoto to newsletter@asemonline.org!

Objects for July 2012:

Object Name	Constellation	Object Type	Binocular Difficulty
M3	Canes Venatici	Globular Cluster	Easy
M13	Hercules	Globular Cluster	Easy
M92	Hercules	Globular Cluster	Easy
M4	Scorpius	Globular Cluster	Easy
M80	Scorpius	Globular Cluster	Tougher
M5	Serpens	Globular Cluster	Easy
M10	Ophiuchus	Globular Cluster	Easy
M12	Ophiuchus	Globular Cluster	Easy
M19	Ophiuchus	Globular Cluster	Tougher
M62	Ophiuchus	Globular Cluster	Tougher

Pictures of these globular clusters can be found in many places on the Internet including:

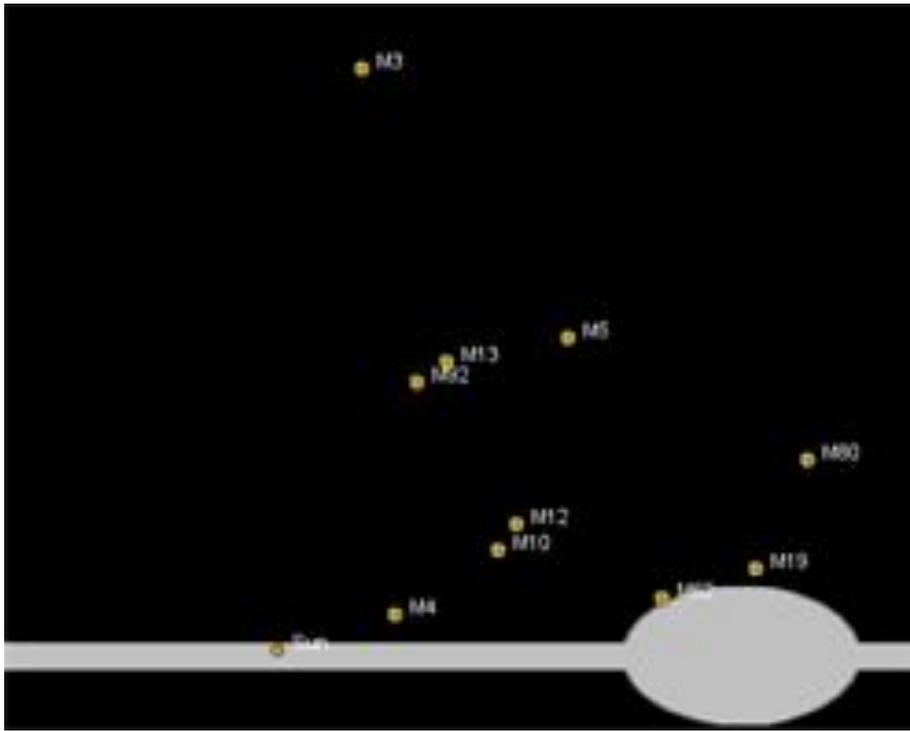
<http://astropixels.com/globularclusters/globularclusters.html>

These ten globular clusters can be used to fulfill requirements for three different Astronomical League Observing Clubs:

- ✓ Messier Club see all 110 Messier objects (You need all ten.)
- ✓ Binocular Messier Club see any 50 Messier objects (Seven should be easy.)
- ✓ Globular Cluster Club see 50 from a list of 200 (All are on the list.)

If you are interested in the Globular Cluster Club, you'll also need to estimate the Shapley Sawyer concentration (Google Shapley-Sawyer). You will need to keep records of the date and time seen, location, your optics, seeing and transparency, and a record of your observations, but it is fairly very easy process. All ten of these globular clusters can easily be found in one night with either binoculars or a telescope. They are too small for naked eye observation.

The best way to find the objects in the sky is to use a sky atlas like *Sky & Telescope's Sky Atlas* or a computer planetarium program like Stellarium (free at: <http://stellarium.org>) on laptop with a red shield. Most of the programs like Stellarium will have a search feature that makes finding the objects easier. If you are using the objects for the Messier Astronomical League Clubs, you'll have to star hop since manual finding is required and GOTOs are not allowed. GOTOs can be used for the Globular Cluster Club. Seven of ten of these objects are easy to find in binoculars, so smaller aperture telescopes (70mm) should work well too. Consider using binoculars to find the object first so you know the location before you try to find it with a telescope.



If you are interested, all of these globular clusters are on the “north” side of the Milky Way as a screen shot from “Where Is M13?” shows.

Come out to Broemmelsiek Park in July and find these objects. Come for a Friday night open house and share your new knowledge with the public.

Oh, I promise no globular clusters next month!

Solar System highlights this month

By Grant Martin

Mercury, Venus, Mars, Jupiter and Saturn put on terrific shows this month. Keep an eye on Saturn and Mars as they approach each other in the evening sky while the morning sky presents a fabulously bright Venus with Jupiter hosting 22 single and multiple shadow and satellite transits (See Jupiter for more information about limited viewing opportunities).

Mercury:

Greatest elongation for Mercury is July 1st. Get out and see it quick as it fades quickly to inferior conjunction by the end of the month. You’ll have till around July 10th to spot this fast mover

Venus:

Brightest at 27% illumination and mag -4.7 on the 12th and lies near Aldeberan, the Hyades and Jupiter.

Mars:

Fading quickly but retrograde motion keeps it high in the sky following sunset. The separation between it and Saturn is shrinking fast. Watch these two in the early evening for the next month.

Jupiter:

The King of the planets puts on a “really good shoe” this month and next with many single and multiple satellite and satellite shadow transits. Consult your favorite planet reference guide for the dates of these events. 26 events occur in July and August and then only two more for the rest of the year.

Saturn:

Continues its Western journey and sets near midnight

Uranus:

Rises near midnight

Neptune:

Rises in late evening

May DIGITAL imaging SIG by Dan Crowson

The theme of June's Digital SIG was how to setup for imaging. I gave a presentation on how I quickly setup to image in my driveway (a red light pollution zone). I also demonstrated how to get images from sky surveys that match what you should see with your equipment. Notes and the program I wrote can be found here –

<http://tech.groups.yahoo.com/group/ASEMDigitalSIG/message/1598>

Building on what we've learned over the last few months, July will give us another opportunity to put things into practice. An imaging party will take place at the Danville Department of Conservation site on July 14th with a bad weather backup date of July 21st. This is a good time to see some dark skies, get help and spend time with others doing the same.

The next Digital SIG meeting will be July 17th. Gregg Ruppel will be demonstrating how he puts his images together in Maxim DL with a focus on how to integrate narrowband data. There is always time available for other questions so please join us if you have an interest in imaging.

Picture of the month – LDN 673 by Gregg Ruppel –

http://www.ruppel.darkhorizons.org/IMAGES/LDN%20673_LRGB.jpg



The latest news can always be found in the ASEMDigitalSIG Yahoo! Group –

<http://tech.groups.yahoo.com/group/ASEMDigitalSIG/>

REGULAR CONTRIBUTORS (OR USUAL SUSPECTS – YOU DECIDE)

MARV STEWART (GENERAL ASTRONOMICAL RACONTEUR)

The past two major astronomical events, the May 20 annular eclipse and the June 4 transit of Venus were spectacular. One of the memories of witnessing the eclipse in Albuquerque I will carry with me for a long time was the crowds enthusiastic response to the peak moment when the annular ring appeared. At that moment the crowd clapped and cheered as if they were attending a rock concert, and the disc jockey played the Johnny Cash hit, "Ring of fire."

It was my privilege to be at Broemmelsiek Park and talk to the people that came to see the transit of Venus. The crowd's response was almost awe. The Ranger's count was 800 attendees, yet they were content to patiently stand in line in the hot sun, to look through a telescope, and there was never a moment when I had to raise my voice to be heard over the crowd. I heard a lot of favorable comments concerning our groups willingness to do this and our depth of knowledge.

What I will always remember though is watching tiny Venus cross the face of the Sun and realizing the slight difference in size between our two planets. Earth's radius is 6400 km, Venus long called Earth's twin has a radius of 6100 km. So that small black dot could have been the Earth against the Sun. That tiny dot is what's carrying all life as we know it. Our families, our friends our foes, every creature that walks runs or crawls, swims or grows, or for that matter all life that may exist lives on a dot that size. I measured an image of the transit out of curiosity, Venus was 3 mm in diameter, the Sun 72 mm, We must take care of our dot.

JIM TWELLMAN

Stay tuned for more information regarding a special Perseids star party at Broemmelsiek park on 11 August

CALENDARS

CLUB

Date	Event
5	Beginners meeting
14	Potluck social and general meeting
17	Digital SIG
25	DIY SIG

Unless noted otherwise, all meetings take place at the Weldon Springs Nuclear containment site at the specified times (Don't worry, you won't be irradiated any more than usual ;)

OUTREACH (VIA JIM TWELLMAN)

Nothing this month

ASTRONOMICAL EVENTS FOR JULY (VIA MARV STEWART)

Date	Event
 3	Full Moon. This is the largest full moon this year; the Moon is at perigee on the sixth.
4	Earth 94,500 000 miles from the Sun.
 10	Last Quarter
14	Jupiter and the Moon half a degree apart.
 19	New Moon
 26	First Quarter

HEADS UP:

Don't miss Curiosity landing on Mars Aug 6th. Just about 34 days to go.

CLUB NOTES

General meeting

The program is still under development but one thing's for sure, they plan to continue to make it entertaining, educational and inclusive. We did get a note indicating the following can be counted upon:

Marv will continue his trivia entries and Astro 101.



David Lloyd is bringing BBQ Chicken!

OUR ADMIN GOT THE FOLLOWING NOTE VIA EMAIL FROM SCOTT KARDEL WSKARDEL@DARKSKY.ORG

Greetings!

The International Dark-Sky Association (IDA) is running a membership promotion that we thought that you and the members of your astronomy club might be interested in knowing about.

We are hoping that you would consider including the information below in an upcoming newsletter or other bulletin that is distributed to your members. If you would like, we can also send you a nice graphic to go along with the story.

Thank you very much!

Clear skies,

- Scott

W. Scott Kardel
Public Affairs Director
International Dark-Sky Association

email: wskardel@darksky.org
phone: 520 293-3198 ext. 402
website: www.darksky.org

Enter the International Dark-Sky Association's Darksky Giveaway for an astronomically grand prize - a set of eight TeleVue Ethos eyepieces valued at \$5,665, generously donated by TeleVue Optics.

To enter the IDA's Darksky Giveaway, you must be an IDA member before the entry closeout date of August 31, 2012. If you are not a member, joining is easy and the

cost of a one-year membership is only \$35.00. To join or renew your membership, visit www.darksky.org and select the Join tab at the top of the webpage. You can also join by calling the IDA office at (520) 293-3198. Entering to win is also a breeze. Visit darksky.org/giveaway where you can fill out the entry form online and read the official rules.

Individual memberships help IDA perform its mission in stopping light pollution and helps to support its many programs. Through the International Dark Sky Places program, IDA and its partners certify locations with exceptional nightscapes as International Dark Sky Communities, International Dark Sky Parks, and International Dark Sky Reserves. The Dark Sky Parks and Protected Area Program currently works with national parks to help them utilize quality outdoor lighting. IDA's new Suburban Outreach Sites project partners with astronomy clubs to establish accessible programs for kids and their parents. These programs help IDA to engage communities and to raise awareness and ultimately "to preserve and protect the nighttime environment and our heritage of dark skies through environmentally responsible outdoor lighting."

IDA members make a big difference in their communities and around the world, which is why IDA is thrilled to offer its members such a premium giveaway from Televue Optics. Make sure you enter the DarkSky Giveaway by the deadline and good luck!

To learn more, visit www.darksky.org.

The winner will be announced at the Pacific Astronomy and Telescope Show in September 2012, but does not need to attend PATS to win.

MEMBER NOTES

John Duchek is offering a new, low cost filter characterization service. He will scan your astronomical filters and return both spectral transmission performance data and plots. *For one time only, he will perform these measurements for no charge following the conclusion of the July 14th ASEM meeting.* He adds:

“Just bring filters, and a storage device for the results (memory stick). It might even be easier to bring an email address where I can send the results the next day depending on how many I will be doing. I won't be able to do UV filters as I won't have a UV source with me, but the spectroscope will do 400nm-1000nm (Visible & IR). I can do 1.25" and 2" and sheets of film. (I have done the ruby red for laptop screens and such).”

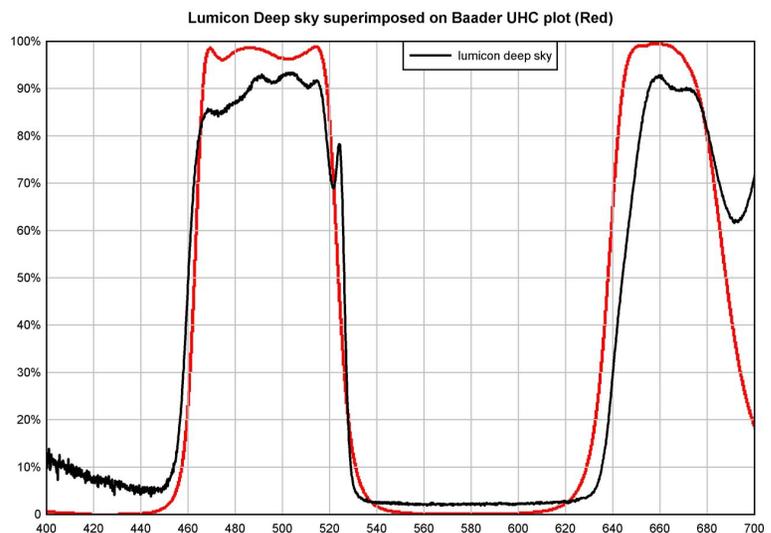
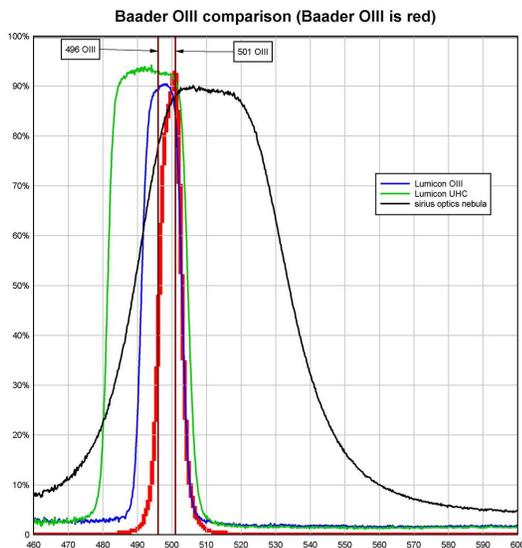
See the next two links for more information:

http://duchekconsult.com/Spectroscopy_of_Filters.html and

http://duchekconsult.com/Spectroscopy_Ordering.html

Grant Martin availed himself of this service and here's what he had to say:

“I gave John 22 of my filters and he returned the data within days. The data was in txt files which were easily imported into Excel for post processing. I created custom comparison graphs to not only see how they stacked up to each other but to also compare them to several Baader filters. Here are two of the graphs:



The graph on the left shows the comparison of my Lumicon UHC and OIII filters to the Baader OIII. This graph showed the Baader to be significantly narrower than the Lumicon OIII. I'll probably purchase the Baader sometime in the future to fill the gap. The graph on the right shows the Baader UHC performing nearly identically to the Lumicon Deep Sky filter. The Lumicon UHC (not shown) has a much narrower profile than the Baader. The Baader UHC does not offer any significant advantages. I would probably buy this one though if I lost my Lumicon.”

CLUB CONTACTS

MEMBERSHIP

Membership issues can be addressed through our executive director Stacy Thater (pronounced “totter”) at these addresses:

Email: stthater@stchas.edu

Snail mail:

Alliance for Astronomy (ASEM)

PO Box 141

New Melle MO 63365

COMMITTEES

Comments, questions, suggestions and money (just kidding) may be sent to the following addresses:

programs@asemonline.org

Use this address to communicate with the program committee. If you have something to present at a meeting or wish to contribute and let someone else perform, send it here. Questions and/or suggestions about programming etc. Remember, they are here to help you. This is a user friendly society and we like to see members get up and share.

equipment@asemonline.org

This address is used to find out about ASEM loaner equipment. If you find something amiss at BPark by all means report it here. If you are curious about borrowing an item, put in a request via this address.

hospitality@asemonline.org

Got a main dish you’d like to bring to the potluck? We sure could use it AND you will be reimbursed for your expenses.

newsletter@asemonline.org

Primary contact for the newsletter. Got an article or notice you’d like to see published? Send it here and be famous!

Outreach@asemonline.org

Special requests for groups at Broemmelsiek Park including:

- Notice of large party (more than groups of twenty)
- Request for specific requirements needed (school assignment, merit badge requirements, etc.)
- Requests for Star Party / Telescope event at another location

steve.boerner@asemonline.org

Web page and all other communications not covered above

ENTERTAINMENT

Late breaking news and member adventures (or shenanigans as the case may be) can usually be found at STLAstronomy in yahoo groups. If you aren’t a member, you should join. Go to

<http://tech.groups.yahoo.com/group/STLAstronomy/>

and click “Join”

Think Clear, dark skies