



The Night Sky

The Newsletter of
The Astronomy Club of Akron
www.acaoh.org

Volume 39 Number 5

July 2017

SUMMER BREAK! NO MEETINGS SCHEDULED THIS MONTH!

The Presidents Column

By Cathy Loboda

As we find ourselves in the midst of July, there is much to look forward to with both ACA and astronomical activities. I would like to bring your attention to three events in particular.

Upcoming ACA public star parties are scheduled for July 15 (8:45 p.m.), July 22 (9:00 p.m.), August 19 (8:30 p.m.), and August 26 (8:00 p.m.). On July 15th, a presentation of a Mount Wilson Observatory Slideshow Tour will kick off the evening. Observing will follow the presentation. On July 22nd, a member of ACA will take participants on a sky tour of the summer constellations, and the August 26th star party begins with a presentation on star maps. Come out and support!

ACA will hold its annual members' picnic on Sunday, July 30th, at 3:00 p.m. If you are interested in participating in the Swap and Shop feel free to arrive earlier to set up your items. The club has reserved the Big Oaks Pavilion in Portage Lakes State Park for the day. ACA will provide meat, buns, condiments, and paper products for the picnic. Members are asked to bring a dish to share. Suggestions are: a salad such as pasta or potato salad, a favorite side dish such as baked beans, and a dessert. Since ACA is providing the meat, it is important to RSVP to my email at cnloboda@aol.com before July 23rd.

Finally, the Solar Eclipse of 2017 will soon be upon us. A number of ACA members plan on traveling to hopefully witness totality. There has been overwhelming publicity for the event and many are taking advantage of the public's interest by including additional educational material. As an example, Astronomy Magazine has devoted the entire August issue to the solar eclipse. I appreciated the articles "What Weather Should You Expect" and "20 Hot Spots to View the Eclipse," but "Get Ready for E-Day" with its list of 25 things to bring to the eclipse really grabbed my attention. I attribute this heightened interest to a personal experience in 2007 on the island of Kauai in Hawaii. My family ventured to hike to a secluded beach. The hike ended up taking over 9 hours and was strenuous, to say the least. The plaque at the trailhead wasn't noticed until we returned from our day long adventure. On the plaque was an extensive list of what was needed to ensure a safe hike and a warning of its difficulty. I took one bottle of water instead of the recommended 3-5, I did not have proper footwear or sun protection, I did not take the recommended breaks to hydrate (because I did not have water anyway)....but I digress.

(con't page 4)



Marnie & Mike Sanders arrive early at the April 26th impromptu star party to view the occultation of Io by Jupiter. Mike Sanders views Io near the limb of Jupiter with just 15 arc seconds of separation. Marnie Sanders looks on and waits for another chance to observe the Galilean Moon before it disappears behind Jupiter. Image by ACA member Ron Kalinoski.

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June Treasurer's Report

By Nick Mihiylov

6/1/2017 Through 6/30/2017

Checking Beginning Balance	\$1,174.19
Income	
Individual Membership	30.00
Family Membership	40.00
Total Income	\$70.00
Expenses	
Speaker Dinner	-30.00
Total Expenses	-30.00
Income Less Expenses	\$40.00
Checking Ending Balance	\$1,214.19
<hr/>	
Savings Beginning Balance	\$2,566.36
Earned Interest	0.04
Savings Ending Balance	\$2,566.40
<hr/>	
Petty Cash Beginning Balance	\$50.00
	0.00
Petty Cash Ending Balance	\$50.00
<hr/>	
Petty Cash	50.00
Savings	2,566.40
Checking	1,214.19
Grand Total	\$3,830.59

Article by Nick Mihiylov
ACA Treasurer.

SWAP & SHOP



FOR SALE:

Orion Sirius 40mm Plossl

Asking: \$25

Contact: Glenn Cameron

Phone: 330-737-1472

Email: glenn@cameronclan.org

FOR SALE:



Televue Radian 12 mm Eyepiece

- Excellent condition.

Asking: \$180 (cash)

Contact: Fred Fry

Email:

riverfry@gmail.com

FOR SALE:



Televue Radian 18 mm Eyepiece

- Excellent condition.

Asking: \$180 (cash)

Contact: Fred Fry

Email:

riverfry@gmail.com

FOR SALE:

Celestron CPC Deluxe 800 HD Telescope with tripod.

Accessories:

- Celestron 1.25" eyepiece and filter kit.
- Tele Vue nebula filter.
- Celestron UHC/LPR filter.
- Celestron 15mm 1.25" 82 degree wide field eyepiece.
- Stellarvue 1.25" Dielectric Diagonal.
- Stellarvue 1.25" erecting prism.
- Celestron power tank and dew shield.
- Astrozap sun filter.
- Celestron AC adaptor.
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All 8 months old, brand new condition.

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Contact: Jim Hall

Phone: 330-268-8695

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- 2X Barlow lense.
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- A/C adaptor.
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- Celestron star pointer.

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Phone: 216-486-2000 weekdays and

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RELATED** item and
relevant information
to the newsletter
editor:

speedymissy@yahoo.com

The Presidents Column Con't

“Get Ready for E-Day” presents a number of items I certainly would not have considered taking to view the solar eclipse. Author Michael E. Bakich noted the purpose of the list was to help those who are not part of an organized travel group, so I take this opportunity to pass the listed items along to you with best wishes for a most memorable experience.

Bakich felt the most important items on the list were sunscreen and water. Other items listed, but not in order of importance: approved solar filter (not eclipse glasses) for viewing equipment, camera to document your travel, transistor radio for eclipse-related news, binoculars, an eclipse guide, food or snacks, medicine, chairs, toilet paper, hand sanitizer, extra eyeglasses, kid’s stuff if traveling with children, broad-brimmed hat, power inverter for recharging devices in the car, pillow for your reclining chair, sunglasses for use while traveling, insect repellent, phone, telescope, astrophoto gear, odd parts and tools, and personal items. I am adding solar eclipse glasses....I am known to forget the obvious!

David Eicher gave the best advice to readers in his article “Whatever You Do, Just Look.” He noted there will be “zillions” of images of the eclipse posted later, and “Those fleeting moments of totality, of actually seeing the Sun’s corona with your own eyes, are priceless. Make the most of them. Just sit back and watch.....you’ll thank yourself later.” If August 21st presents cloudy skies, or if you are not able to travel to view totality....take heart. April 8, 2024 brings totality over many U.S. cities, including our fair city of Cleveland. Hopefully, snow will not be in the day’s forecast!

*Article By Cathy Loboda
ACA President*

ACA NEWS AND NOTES **July 2017**

RSVP for ACA Members’ Annual Picnic

The ACA Annual Members’ Summer Picnic and Swap & Shop is scheduled for Sunday, July 30th at 3:00 p.m. The event will be held at Big Oaks Pavilion, Portage Lakes State Park, rain or shine. Please RSVP the number attending and note the food item you intend to share to President Cathy Loboda at cnloboda@aol.com before July 23rd. ACA will provide burgers, dogs, buns, condiments, drinks, and paper products. Last year’s picnic was enjoyed by all in attendance....good friends + good food = good times! Hope to see you there!

ACA Meetings

The ACA Board reminds you the next membership meeting is scheduled for September 22nd, after our summer hiatus. This will begin our yearly meeting cycle that ends with the May 2018 monthly meeting. Please remember to renew your ACA membership at any point in time before the September 30th deadline. ACA and its outreach programs thank you for your continued support.

Star Parties

Upcoming star parties are scheduled for July 15th at 8:45 p.m., and July 22nd at 9:00 p.m. Preceding the July 15th star party, there will be a Tour of Mount Wilson Observatory slideshow. Come out to the observatory and support!

MVAS OTAA Convention

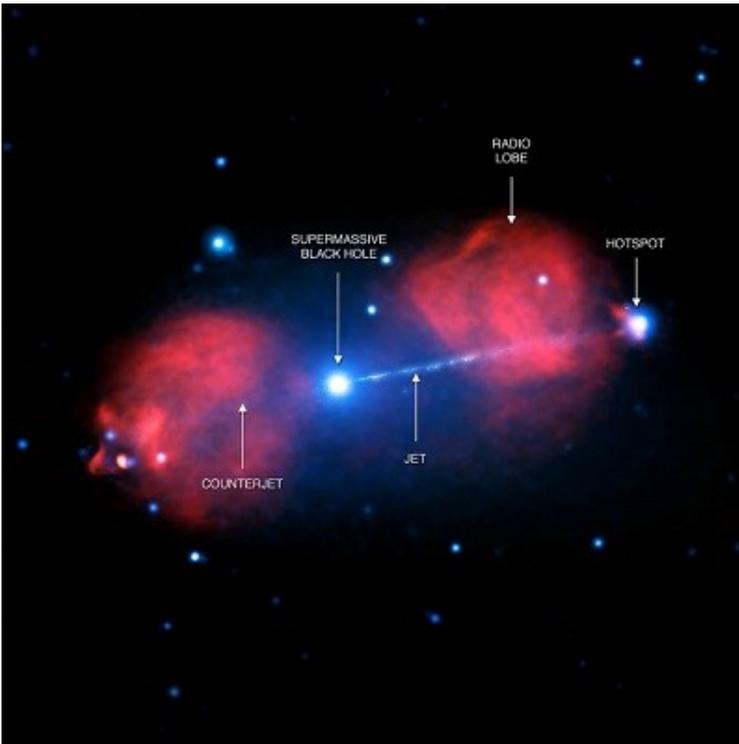
The Mahoning Valley Astronomical Society [MVAS] will host the Ohio Turnpike Astronomers Association Convention [OTAA] on Saturday, August 12th. Registration begins at 5:00 p.m. The \$5 registration fee automatically enters you into the door prize raffle. A pot luck picnic dinner is scheduled for 6:00 p.m. Bring a covered dish or dessert to share. Coffee and soft drinks will be provided. Observing will follow a program and the raffle. This event occurs rain or shine. Please support our fellow OTAA club member and attend this well-planned event.

Eclipse 2017

Marnie Sanders is writing for the ACA newsletter about all things associated with the Solar Eclipse of August 2017. If you have plans for the event or other information you would like to share, you can contact Marnie through Marissa Fanady, ACA Publications Secretary. Let's create a club experience for Eclipse 2017!

Astronomy Picture of The Month

By Marissa Fanady



The Chandra X-ray image of Pictor A shows a spectacular jet that emanates from a black hole in the center of the galaxy and extends across 300,000 years toward a brilliant hotspot and a counter jet pointing in the opposite direction. Image credit: X-ray: NASA/CXC/Univ. of Hertfordshire/M. Hardcastle et al.; Radio: CSIRO/ATNF/ATCA.

from this event is so great that the star's core is crushed into an object so dense that light cannot escape from its surface. There is also a rebound of matter and energy that comes off of the dying star during this intense fast process; different lightwaves, gases, and matter are scattered into interstellar space, we call this event a supernova. People begin to calculate the effects that black holes would have on the universe, since we cannot directly observe an object that emits absolutely no light our only option is to observe the effects on the surrounding environment. In 1967 John A. Wheeler was the first person to coin the term black holes for these collapsed dark stars and later in 1971 astronomers combined x-ray, radio and optical observations to identify the very first black hole dubbed Cygnus X-1. Scientists discover that almost every galaxy, even our own, houses a supermassive black hole at their centers...somehow this is tied to the evolution of galaxies but how is not yet understood. The true nature of black holes is still a mystery to us, we have no idea what is occurring inside these objects because once you pass the event horizon, the surface, there is no hope of getting back out. All we have for the moment is our theories and mathematical equations, but maybe someday the universe will surprise us once again....offering a way inside and out of a black hole.

Information credited: <http://blackholes.stardate.org/history.html>

Article By Marissa Fanady
ACA Publications Secretary

ACA Eclipse Corner 2017

By Marnie Sanders

Ok, so you have decided to travel to the Eclipse path.....you and between 2 and 7 million other folks, according to EarthSky.org a popular newsletter I receive, are making the trip as well. What you do, where you go, and how you get there are certainly going to be major decisions!! Even folks who have had confirmed reservations for over a year are discovering that Eclipse greed has overtaken some of the unscrupulous and they are now CANCELLED and can re-book for 10 times more their former rate!!! Even camping is now also quite unlikely to be the easy “go to” method you may have imagined, with all those folks also claiming a resting spot! So unless you are brave, resourceful, and flexible, staying at home and taking advantage of local programs such as the Akron Library, Hoover Planetarium, TV and internet viewing, and , of course, Akron and Stow Astronomy Club gatherings may be your best decision ever! To read the entire article go to: http://earthsky.org/astronomy-essentials/traffic-congestion-predictions-maps-eclipse-august-21-2017?utm_source=EarthSky+News&utm_campaign=57cceff494-EarthSky_News&utm_medium=email&utm_term=0_c643945d79-57cceff494-394210309&mc_cid=57cceff494&mc_eid=39aa49f11a

NASA has big plans for informing, engaging, and further educating all of us citizens, so plan to visit their website often between now and Aug 21st for updates as well: www.nasa.gov. Together with those oh-so-entertaining ISS astronauts, cameras on 50-mile high balloons, and at least three aircrafts, and including the Lunar Recon Orbiter the coverage should be WOW! We have really enjoyed NASA TV for several “cloudy” events in the past. SO.... if Akron clouds.....or clouds anywhere else you may decide to go, make your view less than ideal.....be sure to take your portable viewing devices. As for Mikey and I, we are strongly considering placing our big monitor on the back porch even if clouds stay away, have picnic foods and a pitcher of ice tea or what-have-you, our comfy new camp chairs, safe eclipse glasses, and VOILA! Total ECLIPSE in Total COMFORT! And.....a big bonus.....no searching for gas, food, or restrooms with the other 7 million folks!

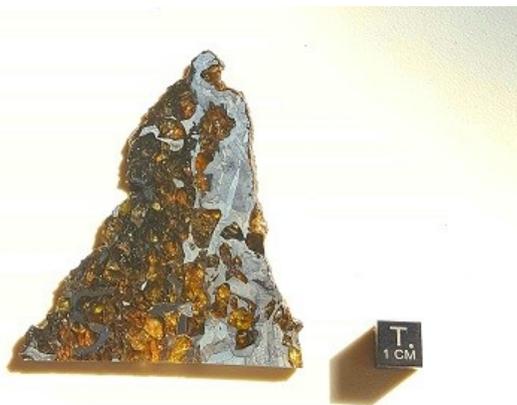
For a quick review of just what NASA will offer, visit the same newsletter from EarthSky.org at: http://earthsky.org/astronomy-essentials/nasas-plans-for-august-21-2017-eclipse?utm_source=EarthSky+News&utm_campaign=57cceff494-EarthSky_News&utm_medium=email&utm_term=0_c643945d79-57cceff494-394210309&mc_cid=57cceff494&mc_eid=39aa49f11a

Don't forget all the safety equipment for yourselves!!! See you all on the other side of the Great American Eclipse 2017!!!

*Article By ACA Member,
Marnie Sanders*

Meteorite of The Month

By Marissa Fanady



A 40.76 gram slice of the Seymchan pallesite meteorite. Obtained on February 6, 2016 at the Tucson gem and mineral show. Image by ACA member Marissa Fanady.

So, it has been quite some time since my last featured meteorite and one of them is screaming out at me to have its chance to shine....my Seymchan meteorite. This meteorite is among the rarest class of extraterrestrial material that we know of so far, a pallesite meteorite. What makes this class so rare and extraordinary? Well these meteorites are thought to form within the core/mantel boundary of large asteroids where molten liquid iron and nickel meets an olivine silicate crystalline mantel. When these asteroids collide with each other this mixed material gets thrown from its parent body to be scattered throughout the cold depths of space. The olivine crystals and molten iron and nickel don't necessarily enjoy mixing together, think of it as oil floating on top of water. After being mixed by either an outside force, like a massive impact by another asteroid, or by unstable powerful convection currents forcing the molten metal upwards into the crystal boundary, the now mixed matter must cool rapidly. The cooling process doesn't seem quick enough to keep these elements mixed together so the parent body core is believed to have already undergone the cooling process and solidify the liquid outer core.

The molten metal isn't completely solid yet and this allows olivine crystals to become mixed in once a massive impact occurs, if the object is large enough and has enough velocity the impact completely shatters the parent body. This causes pieces of the asteroid to fly off into space in all directions, thus releasing the now combined olivine crystal and iron nickel pallesite asteroids and meteoroids. So why so rare? Well allow me to elaborate...

The collision of asteroids takes place in the asteroid belt between Mars and Jupiter where gravity from the sun and inner planets is playing a cosmic game of tug of war with the outer gas giant planets. The core mantel boundary is thought to be a very thin layer, perhaps thinner than the crust, and then a large impact has to occur to break apart the asteroid. If the conditions are not suitable then the mixture of the silicate crystals to the iron nickel core will not hold and they will separate from each other. Then this very thin layer of combined matter must somehow find its way to earth, knocked perfectly into an orbit around the sun where at some point the rock crosses our planets path. Finally, this space invader must survive the fiery passage through the atmosphere without completely burning up and then land in an area that can preserve the meteorite until we can find and recover the object. With a planet covered mostly with water, about seventy percent, and such remote and dangerous areas like jungles, mountains, huge deserts and cold polar regions the odds of finding a pallesite meteorite become even more minute. Everything must come together perfectly to deliver these remarkable meteorites to us for study and enjoyment, because of these intricate processes this has resulted in pallesite meteorites making up only less than one percent of all the known meteorites discovered and classified to date. This is what makes these objects so special and so very scarce. Now that you understand why this class is so rare, let me give you some background information on the Seymchan pallesite meteorite and why pallesites are so highly desired by collectors.



A close up view at the crystals reveals their structure and fractures resulting from collisions during the asteroid's journey through space. A cell phone was used to capture the photo under a microscope. Image by ACA member Marissa Fanady.



Holding the meteorite up to a light source shows the transparency and colors of the delicate olivine crystals when properly prepared and sliced thin enough. Image by ACA member Marissa Fanady.

The Seymchan pallesite meteorite was discovered in June of 1967 in Russia. This was not a witness fall event, the rock was found in a brook bed flowing into the river of Hekandue during a geological survey by F. A. Mednikov. The main mass was estimated to be about 300 kg, another report puts it at approximately 272.3 kg, when an expedition team was organized to examine and recover the meteorite about a year later. Meteorites are named for the nearest town from the rock or sometimes they're named after a nearby landmark such as a river, creek or mountain if no town is nearby or the object fell right on a landmark. The Russian town of Seymchan was located about 150 km southeast of the meteorite giving it the name of Seymchan. The mass itself was recorded as a roughly triangular prism with very distinct and obvious regmaglypts, aka thumbprints. A smaller specimen was found 20 m away from the main mass later in October with a mine detector by I. H. Markov. The total weight of all the material recovered from the site is at least 351 kg, only two large masses have been discovered so far and the main mass was turned over to the Academy of Sciences in Moscow Russia. Lucky for us collectors enough meteoritical material was found to put this beauty on the market. Most meteorite dealers have an example of this well known pallesite for purchase and more often than not the specimens were cut into slices. Why? There's an unimaginable and otherworldly beauty trapped within these remarkable space rocks. Just look at the image to the left and you will understand. When cut thin enough light can actually pass through the delicate olivine crystals to reveal an array of colors such as greens, yellows, oranges and reds. One can also notice every fracture within each crystal as the light is refracted in many different directions, revealing the violent history of many impacts. Usually the crystals in pallesite meteorites are almost always cracked from cosmic impacts and/or from the impact of landing on earth. Looks like gorgeous stained glass windows to me, windows into the inner workings of the universe. There's a whole lot more to pallesite meteorites than just this, the information above is just the beginning; a mere scratch at the surface of knowledge contained inside these rocks. Some of which we still have yet to unlock.

*Article By Marissa Fanady
ACA Publications Secretary*

July Astronomical Events

Day Hour(UT)

1 01 FIRST QUARTER
1 07 Jupiter 3° S. of Moon
2 13 Juno at opposition
3 00 Mercury 5° S. of Pollux
3 20 Earth at aphelion
6 04 Moon at apogee
7 03 Saturn 3° S. of Moon
9 04 FULL MOON
10 05 Pluto at opposition
13 18 Neptune 0°.9 N. of Moon Occn.
14 11 Venus 3° N. of Aldebaran
16 19 LAST QUARTER
17 00 Uranus 4° N. of Moon
20 00 Aldebaran 0°.4 S. of Moon Occn.
20 11 Venus 3° N. of Moon
21 17 Moon at perigee
23 10 NEW MOON
25 09 Mercury 0°.9 S. of Moon Occn.
25 11 Regulus 0°.07 S. of Moon Occn.
26 09 Mercury 1°.1S. of Regulus
27 01 Mars in conjunction with Sun
28 20 Jupiter 3° S. of Moon
30 05 Mercury greatest elong. E. (27°)
30 15 FIRST QUARTER

August Astronomical Events

Day Hour(UT)

2 18 Moon at apogee
3 07 Saturn 3° S. of Moon
3 10 Uranus stationary
7 18 FULL MOON Eclipse
9 23 Neptune 0°.9 N. of Moon Occn.
12 06 Mercury stationary
13 05 Uranus 4° N. of Moon
15 01 LAST QUARTER
16 07 Aldebaran 0°.4 S. of Moon Occn.
18 13 Moon at perigee
19 05 Venus 2° N. of Moon
21 19 NEW MOON Eclipse
21 19 Venus 7° S. of Pollux
25 13 Jupiter 3° S. of Moon
25 15 Saturn stationary
26 10 Juno stationary
26 21 Mercury in inferior conjunction
29 08 FIRST QUARTER
30 11 Moon at apogee
30 14 Saturn 4° S. of Moon

*Information Credited,
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US Naval Observatory.*

Member Photos



Glenn, Nick, Gregg, Freddy, & Isabella gather near Freddy's new telescope design at Camp Bear on June 2nd. Along with Dave & Rosaelena Jessie, Lew Snodgrass, and Ron Kalinoski, the group showed children Jupiter, the Moon, and some star clusters at the observing event. Image by ACA member Ron Kalinoski.



Marissa Fanady gave an excellent presentation on asteroids at our June 24th star party. Marissa's presentation included a "hands-on" display of the three types of asteroids. About 25 people attended the presentation and observing session. Image by ACA member Ron Kalinoski.

The Night Sky

Newsletter of the Astronomy Club of Akron

c/o Marissa Fanady, Editor

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Tallmadge OH, 44278

The Astronomy Club of Akron

c/o Nick Mihiylov

13495 Mogadore Avenue NW

Uniontown, Ohio 44685-9347

Yes! I want to become a member of the Astronomy Club of Akron

www.acaoh.org

(PLEASE PRINT)

NAME: _____ PHONE: _____

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Astronomy Club of Akron annual memberships renew in the month of September.

ADULT (ages 18 and older) ___\$30.00

JUNIOR (ages 12 to 17) _____\$15.00

ADDITIONAL ADULT member ___\$15.00

FAMILY MEMBERSHIP _____\$40.00

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