ASTRONOMY CLUB OF AKRON
www.acaoh.org

The Night Sky

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

Volume 35 Number 5 **May 2013**

Next Meeting: Friday - May 24, 2013 - 8:00 PM - Kiwanis

The President's Column

By Gary Smith

Hello to all sky watchers and star gazers. The month of May has been alive with the combination of spring weather and spring constellations. The mighty constellation of Orion will not be visible again until late fall. The bright star Sirius is still with us at sunset in the southwest, but only for a short time, until it too falls victim to the SW horizon. The bright stars Castor and Pollux in the famed Gemini constellation are still prominent in our west.

The bright star Capella, also named alpha Aurigae, is the 6th brightest star in the entire sky and only 41 light years in distance. But more importantly, it is the third brightest star in the north celestial hemisphere, at 0.08 magnitude. (Can you name the first & second?) Capella has been determined to be a pair of binary stars for a total of four stars in the system. The first pair are large G-type stars with about ten solar diameters. The second pair are smaller and relatively cooler red dwarf stars and have perhaps ½ the Sun's diameter. Capella is visible in our northwest and appears to be competing with Jupiter for brightest object in the western sky.

As we say farewell to the winter constellations we can now greet the spring constellations. Cancer (the crab) is a small constellation with dim stars. It has only two stars (Altarf and Asellus Australis) that are brighter than fourth magnitude. The constellation Hydra is much more interesting. It is to the east of Cancer and below it. It is the largest of the 88 constellations and one of the longest. It has one bright star (second magnitude) Alphard which is quite remarkable. Alphard is an orange giant star and the brightest star in Hydra. Can you name another orange giant star that is the brightest star in the constellation Bootes? Alphard is 177 light years distant and easy to find because it is the only bright star in that part of the sky. Epsilon Hydrae (135 light years away) is the only bright binary star and requires a large telescope to split. The star 27 Hydrae is a triple star system with all three components visible in smaller amateur telescopes.

(Con't Page 4)

Galaxy M82 - By ACA member John Crilly. "I actually made it into the observatory this week! Here's M82, captured 4-26-2013 using the Astrotech 12" RC and the QSI683WSG-8 camera on a Meade LX850 mount."

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April Treasurer's Report

By Glenn Cameron

4/1/2013 Through 4/30/2013

Checking Beginning Balance	**$5,681.56**
Income	
	0.00
Total Income	**$0.00**
Expenses	
Ohio Secretary of State	-25.00
Total Expenses	**-$25.00**
Income Less Expenses	**-$25.00**
Checking Ending Balance	**$5,656.56**
Savings Beginning Balance	**$6,437.59**
Earned Interest	0.26
Savings Ending Balance	**$6,437.85**
Petty Cash Beginning Balance	**$73.70**
	0.00
Petty Cash Ending Balance	**$73.70**
Petty Cash	73.70
Savings	6,437.85
Checking	5,656.56
Grand Total	**$12,168.11**

Article by Glenn Cameron
ACA Treasurer.

SWAP & SHOP

For Sale:

Pentax XW 20mm Eyepiece

- Excellent condition.
- Small mark on 1.25" barrel.
- Always used in a compression clamp.

Asking: $220 (cash)

Contact: Fred Fry
Email: riverfry@gmail.com

For sale:

Teleview Radian 12 mm Eyepiece

- Excellent condition.

Asking: $180 (cash)

Contact: Fred Fry
Email: riverfry@gmail.com

For Sale:

Teleview Radian 18 mm Eyepiece

- Excellent condition.

Asking: $180 (cash)

Contact: Fred Fry
Email: riverfry@gmail.com

For sale:
15mm Ultra-Wide Angle Eyepiece

Asking: $40

Contact: Lew Snodgrass
Phone: 330-819-4886
Phone: 330-867-4800 Ask for Lew.
Email: chrply@aol.com

For Sale:

22mm Orion Epic ED-2 ED Eyepiece
25mm Orion Epic ED-2 ED Eyepiece

Asking: $40 each or $70 for both

Contact: Glenn Cameron
Phone: 330-737-1472
Email: glenn@cameronclan.org

Advertize in the Swap n Shop!

Send a picture of your item and relevant information to the newsletter editor:
truemartian@aol.com

The ACA wishes to welcome our newest members:

Daniel and Kimberly Clark

John Gasser

Nicole Dollwet

We look forward to seeing you at all club functions!

Obituaries

By Jason Shinn

We regret to inform the membership that Mary Kochheiser, the mother of our club statutory agent, Mark Kochheiser has passed on April 25, 2013. Mark had been her caregiver for the past nineteen years. Her obituary can be found on Ohio.com. Our thoughts are with Mark and the family.

Article by Jason Shinn,
ACA Publications Secretary..

President's Column (Con't)

Coma Berenices is a smaller constellation that is squeezed in between Leo and Bootes. There is a story of Queen Berenice II of Egypt who made a pledge to the goddess Aphrodite that she would cut her long blond hair if her husband were to return safely from a battle. Her husband did return and her hair was cut and placed in the temple and the hair subsequently disappeared. The court astronomer was in the "hot seat" and created an explanation that the hair was taken and placed in the sky. The astronomer indicated a cluster of stars that has since been called Berenice's Hair.

Coma Berenices has no bright stars. Beta Comae Berenices is the brightest at 4.2 magnitude and a relatively nearby 29.8 light years distant. But the area of Coma Berenices contains eight Messier objects and is rich in galaxies, which are the northern part of the Virgo Cluster. It also has several globular clusters.

Canes Ventici means the "hunting dogs". In mythology, the dogs Asterion and Chara are held on a leash by Bootes (the herdsman) as he hunts for the bears Ursa Major and Ursa Minor. Canes Venatici has one bright star named Cor Caroli meaning the heart of Charles in memory of King Charles I, the 17th century monarch who was deposed. Cor Caroli is magnitude 2.81 and is a binary star at 110 light years in distance.

Virgo is the second largest constellation and is easily found by locating the very bright star Spica. The adage "follow the arc to Arcturus and speed on the Spica" helps to ensure you will find it every time. Virgo is no ordinary constellation. It has twelve stars with known planets. The brightest star is Spica which means "ear of grain" or "wheat". It is the fifteenth brightest star in the sky at a distance of 260 lights years with a magnitude of 1.04. Virgo contains a number of notable deep sky objects. It is home to the Virgo Cluster of Galaxies, which lies about 59 million light years from earth and contains at least 1300 member galaxies. The Virgo Cluster is part of the Local Supercluster, also known as the Virgo Supercluster, an irregular supercluster that contains over 100 galaxy groups and clusters, including the Local Group, in which the Milky Way is located.

Now it is time to find the incomparable jewels of the spring sky. Each object is a celestial legend of unequaled beauty.

Praesepe(M44) is an open cluster in the constellation Cancer (the crab). It is one of the nearest open clusters and contains a larger star population than most other nearby clusters. Under dark skies the Beehive Cluster looks like a nebulous object to the unaided eye. The classical astronomer Ptolemy called it the "nebulous mass in the breast of Cancer" and it was one of the first objects that Galileo studied with his telescope. M 44 contains red giants and white dwarfs, which represents later stages of stellar evolution. The name Beehive derives from the appearance of a swarm of stars in a dance of activity. There are at least 40 stars that are visible to the unaided eye as a cloudy patch and its 1.5 degree size is equivalent to three full moons end-to-end. In ancient times this cluster often served to predict the weather. If not crystal clear in appearance, inclement weather might be on the way.

Coma Berenices is host to the famous Coma Star Cluster (Melotte 111). It is a small but nearby star cluster in our galaxy containing about 40 brighter stars (magnitude 5-10) with a common proper motion. The distance to the center of the cluster is estimated at 86 parsecs. This cluster is roughly twice the distance as the Hyades and covers an area more than 7.5 degrees on the sky. The cluster is approx 450 million years old. In the field of view of good binoculars, most of the stars can be seen at the same time. The brighter stars of the cluster make out a distinctive "V" shape as seen when Coma Berenices is rising.

Messier 64 is also in Coma Berenices and is called the Blackeye Galaxy or Sleeping Beauty Galaxy. It has a dark band of absorbing dust in front of the galaxy's bright nucleus giving rise to the nicknames of the "Blackeye" or "Evil Eye Galaxy". The galaxy is well known among amateur astronomers because of its appearance in small telescopes. It is a spiral galaxy. The dust feature is easily visible even in smaller telescopes. M64 has recently been shown to have two counter-rotating systems of stars and gas in its disk.

Canes Venatici is host to the very famous M51 or Whirlpool Galaxy. It is one of the best known Galaxies in the sky. It is an interacting, grand design spiral galaxy at an estimated distance of 15-35 million light years. This galaxy and its companion (NGC 5195) are easily observed and may even be seen with binoculars under good conditions. According to current theory, the pronounced spiral structure is due to its encounter with its neighbor NGC5195. Due to this interaction the gas in the galaxy was disturbed and compressed in some regions resulting in the formation of new young stars.

The constellation of Virgo is host to M104 or the Sombrero Galaxy. It is an unbarred spiral galaxy located 28 million light years distant. It has a bright nucleus, an unusually bright central bulge, and a prominent dust lane in its inclined disk. The dark dust lane and the bulge give this galaxy the appearance of a Sombrero. Astronomers initially thought the Halo was small and light, indicative of a spiral galaxy. But the Spitzer space telescope found the halo around the Sombrero Galaxy is larger and

more massive than previously thought, indicative of a giant elliptical galaxy. The large bulge, the central supermassive black hole, and the dust lane all attract the attention of professional astronomers.

The bright stars of Virgo include Spica, Zavijava, Porrima, Auva, and Vindemiatrix. The Star 70 Virginis has one of the first known extrasolar planetary systems with one confirmed planet 7.5 times the mass of Jupiter. The sun-like star 61 Virginis has three planets; one is a super-earth and two are Neptune-mass planets. There are 34 known exoplanets orbiting 28 stars in Virgo, including PSRB1257+12, 70 Virginis, Chi Virginis, 61 Virginis, and NY Virginis.

The May sky is host to two of the most famous planets of our solar system. Jupiter lies in the west at sunset while the ringed planet Saturn is in the southeast. They are both gas giant planets with sizes and distances that are difficult to imagine.

Jupiter is the king of planets with approx 65 known moons. It is about 89,000 miles (11.1 earth diameters) in diameter and is 318 times the mass of the Earth. It is about 2.5 times more massive than all the other planets combined. The Earth-Jupiter distance varies from 4.2 to 6.2 A.U.'s throughout the course of their orbits.

The four largest moons of Jupiter are called the Galilean moons because Galileo saw them in 1610 when he first turned his telescope to the sky. The largest is Ganymede, with a diameter of 3273 miles. This is 8% larger than the planet Mercury.

The nature of the Jupiter system was intensively studied by the Galileo spacecraft which achieved an orbit in late 1995. Thousands of images of Jupiter and many of its moons were taken over the course of eight years. Many (if not all) of these images are available from the NASA/JPL website. September 21, 2003 was a sad day for the spacecraft as it was flown into Jupiter at 108,000 mph. Its mission was over as its cameras had been damaged from years of exposure to the massive Jovian radiation fields.

The ringed planet Saturn is about 72,367 miles (approx nine earth diameters) and is about 95.16 times the mass of the Earth. The Earth-Saturn distance varies from about 7A.U.'s to 11A.U.'s throughout the course of their orbits. Saturn has about 62 known moons of which the largest is Titan, with a diameter of 3200 miles (5% larger than Mercury). Titan is an absolutely incredible natural moon of Saturn in that it has an atmosphere. And this atmosphere is 45% more dense than that of Earth.

Saturn was visited by the Cassini-Huygens Spacecraft and achieved an orbit on 7-1-2004. Cassini-Huygens has taken thousands of images and is continuing to take them. The spacecraft is in good health and performing well. Many of the Cassini-Huygens images are available at the NASA/JPL Website on the internet.

This is just a sample of what awaits the May star gazer under beautiful clear skies. Your sky is a celestial showcase of astronomical wonders.

Article by Gary Smith,
ACA President.

Observatory Report

By Ron Kalinoski

To date, we held two impromptu star parties in May. The May 1st star party offered pristine skies as a result of an Omega Blocker high pressure system. Impromptu stargazers were eager to get out for the first time this year to see the night sky. About twenty-five people attended the event. Students from St. Matthew Parish School came out to our scheduled star party on May 4th. Attending the lecture *From Starlight to the Big Bang* was part of their astronomy assignment. The talk covered how astronomers measure distances to the stars, galaxies, and to the edge of the Universe. Before the star party, students were able to take a look at Jupiter. Clouds canceled the observing session planned after the presentation.

When I was driving home from the May 1st impromptu star party at 11:43pm I saw a bright streak about 60 degrees up from the horizon. The streak was bright yellow and continued moving toward the horizon for about 30 degrees until the leading edge burst into a fireball. The front of the fireball was brilliant green with the trailing part of the fireball bright reddish-orange. I followed it all the way to the horizon, into the trees maintaining the green and red-orange colors. The whole event was about 5 seconds in duration. It looked like it landed just a half-mile away, but that is an illusion. The fact that the fireball didn't "go out" suggests it was very far away, perhaps a couple hundred miles. Reports from observers came in from Pennsylvania, Ohio, Maryland, Delaware, Virginia, and West Virginia.

For over two years there has been discussion about replacing the observatory telescope. As requested at our April membership meeting, I agreed to summarize our comments of the numerous e-mails received about which telescope we should purchase. This summary is the accumulation of knowledge and experience expressed in e-mail communication from the

membership and verbal communication between individual members. The first conclusion by a majority of members is the telescope needs to be a GOTO telescope with an alt-az mount. The GOTO system will quickly slew to an object chosen from a huge database in minimal time. The alt-az mount will keep the eyepiece within a minimum range of elevations and all elevations would keep most observers with their feet on the ground (no need for a ladder). This narrows down the field of options. The two options proposed by the membership were the 14" LX200 ACF & the 16" LX 200 ACF. Since our last round of e-mail correspondence, Meade has either reduced production of the 14" LX200 ACF or eliminated it from their line of telescopes. The website of distributors I viewed, list the 14" LX200 ACF as "not shipping". It has been replaced with the 14" LX 600 ACF Starlock. The Starlock system is essentially a small telescope with a camera mounted to the main tube to provide precision guiding. The system is geared toward imaging and would not really provide us with any significant benefit; not for our intended purpose of the telescope use, which is visually showing the public the night sky. Since the membership has not discussed this option, I will not propose it as an option. Quite honestly, another 14" telescope doesn't really get me all that excited.

The 16" Meade LX200 ACF is a world class telescope that will stun the public on first glance into the observatory before even looking through the eyepiece. This is the excitement we need to generate for our club! Our own Lenny Marek has owned a Meade 16" LX200 and has been happy with the telescope performance both observing visually and using it for imaging.

We are only going to go through this process once. We need to make sure we get it right the first time; get the best telescope the club can afford that meets the clubs objectives. As observatory director, my interest is having a piece of equipment that provides the public with a "Wow Experience" after looking through the eyepiece and safely being able to show the public as many celestial objects as possible with the time allotted for a star party. At our May meeting I would like to present a stepwise plan to the membership showing how the financing of the 16" LX200 ACF can be achieved with maintaining a secure balance in our saving account. Then, we vote on the telescope. Yes, we proceed with the plan to purchase the 16" LX 200 ACF, or no, we re-open discussions on new telescope options.

Article by Ron Kalinoski,
ACA Observatory Director.

Astronoquiz

By Marissa Fanady

Last months question I asked which celestial body in our solar system and its moon have the same gravitational pull and orbit each other in a truly astronomical dance. Did you get it right? The answer is.....

Pluto and Charon.

Charon is almost half the size of Pluto and at a distance of only 19,640 km or 12,200 miles, much closer than our own moon which is 384,400 km or 238,855 miles away from Earth. Both objects take 6.4 Earth days to orbit each other, Charon never rises or sets on Pluto. Instead the moon always stays on one area of Pluto's surface. Charon was discovered in 1978 when an astronomer, James Christy, noticed that Pluto's images were elongated. The name was chosen for the mythological ferryman who carried souls across the river Acheron to the underworld. Since then four more moons have been discovered orbiting Pluto, most recently P4 discovered in July 20, 2011 and later P5 in July 9, 2012 and are currently in a debate on what names to give these new moons.

Stay tuned to next months issue for a new Astronoquiz question!

Information credited www.nasa.gov
Article by ACA member
Marissa Fanady.

SUBMIT YOUR IMAGE TO THE NEWSLETTER: truemartian@aol.com
Send your image along with an information paragraph on where the image was taken, what equipment you used, and any relevant processing techniques. Remember that sharing information helps your fellow club members become better astrophotographers too!

"Recognize that the very molecules that make up your body, the atoms that construct the molecules, are traceable to the crucibles that were once the centers of high mass stars that exploded their chemically rich guts into the galaxy…." —Neil DeGrasse Tyson

THE ASTRONOMY CLUB OF AKRON

MAY 2013 ACTIVITIES CALENDAR

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	Last Quarter 11:16UT 2 	3	4 ACA OBSERVATORY PUBLIC EVENT 8:30p
5	6 **ETA AQUARID METEOR SHOWER PEAKS AT 1h UT.**	7	8	9	New Moon 0:31UT 10 STOW ASTRONOMY PUBLIC EVENT (www.stowastronomy.org) 	11 ACA OBSERVATORY PUBLIC EVENT 9:00p
12	Moon at apogee (farthest) at 14h UT. 13	14	15	16	17 STOW ASTRONOMY PUBLIC EVENT (www.stowastronomy.org)	First Quarter 4:35UT 18 
19	20	21	22	23	24 ACA MEMBERSHIP MEETING (KIWANIS) 8:00p	Full Moon 14:26UT 25 ACA OBSERVATORY PUBLIC EVENT 1:00p SOLAR PARTY 
Moon at perigee (closest) at 2h UT. 26	27	28	29	30	Last Quarter 18:59UT 31 ACA OUTREACH CAMP CHOPS AT CAMP CARL 8:00p 	

EST = UT - 5 hrs, EDT = UT - 4 hrs

Celestial Event Source: www.skymaps.com

The Night Sky
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The Astronomy Club of Akron
c/o Glenn Cameron
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Massillon, OH 44646-9018

Yes! I want to become a member of the Astronomy Club of Akron
www.acaoh.org
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NAME: _____ PHONE: _____

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

ADULT (ages 18 and older) ___$30.00
ADDITIONAL ADULT member ___$15.00
JUNIOR (ages 12 to 17) _____$15.00
FAMILY MEMBERSHIP _____$40.00

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