



ASTRONOMICAL LEAGUE

METEORS

TELESCOPES

PLANETS

MOON

SUN

ACAC

MILLIONS OF STARS

EXCITED MEMBERS

COSMIC ECHOES

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TREASURER'S REPORT

As of February 6, 2017, the ACAC treasury had \$506.74.

Membership: 26 memberships, consisting of 42 members.

Number of people who attended the February meeting: 19.

ACAC Observations by Paul Jones



The ACAC had a fun and very successful viewing of the penumbral lunar eclipse from St. Augustine beach on February 10, 2017. A total of twelve members and guests turned out on a clear and pleasant Friday evening in front of the Beachcomber Restaurant. There we watched and photographed the moonrise over the ocean and followed the subsequent progression of the noticeable yet subtle Earth's outer shadow traversing the north limb of the "full snow moon." It was the consensus of the group that the full moon did not seem overall quite as bright as it would normally be, in addition to the obvious penumbral shading effect.

In attendance were: Neal and Nancy Brown, Bill and Sandra Garrison along with son Matthew and his fiancée Sara, daughter Kaitlin and granddaughter Alivia, Beth Mansbridge, Lynne Pouliot, and Paul Jones. We also welcomed guest Heaven Marculis. Neal was accompanied by his delightful therapy dog Shadow, who entertained us no end by chasing balls around the beach that Neal threw to her. We're thinking of adopting Shadow as the official mascot of the ACAC ;o).

As well as monitoring the penumbral shading on the moon, we also had an impromptu and lively constellation and star name ID session that launched into some great astronomical discussions. Prospective ACAC member Heaven kept us all on our toes with many excellent questions ranging from stellar evolution to advanced positional astronomy, which took us well into mid-eclipse and beyond. It was such a fun and educational session that none of us seemed overly bothered by the somewhat chilly wind out of the north. Further entertainment during the eclipse was provided by a steady progression of brown pelicans flying by, back and forth, over the ocean and often right across the face of the moon!

Other ACAC members who reported observing the snow moon partial eclipse were Dave and Brenda Branchett and Mary Warren, who had an equally nice view and similar impressions from their Florida homes in Deltona and Lake Mary, respectively.



* * *

How is food served to the man in the moon? – In satellite dishes.

And when does the moon stop eating? – When it is full.

The April Lyrids and the eta Aquariids Meteor Showers

by Paul Jones

The January–March timeframe is not-so-affectionately referred to by most meteor watchers as the “meteor doldrums.” There are no major meteor showers during most of this period and overall meteor activity is at its lowest for the entire year in the northern hemisphere due to our axial tilt away from our direction of motion around the sun. More meteors miss our end of the atmosphere during this period than hit it. The result is some very slow and uneventful meteor watches.

That situation begins to change rapidly, though, as soon as April comes upon us. The northern hemisphere begins to swing around on its axis more towards the Earth’s direction of motion as we revolve around the sun, and we also pick up two interesting major springtime meteor showers—the April Lyrids and the eta Aquariids, both favorable to observe in 2017 and notable for very different reasons.

The April Lyrids are a relatively short duration meteor shower, showing activity for just a few nights between April 16 and about the 25th each year. Maximum activity occurs on the morning of April 22. The radiant for the shower is relatively near the bright star Vega in the constellation of Lyra the Harp. Most Lyrids are seen after midnight, as the radiant (actually in eastern Hercules) rises higher in the sky. They are now known to be caused by the long-period comet Thatcher 1861 GI which has an orbital period of 415 years and will not visit the sun again until 2276! They usually produce about 10 to 15 meteors per hour at maximum in most years; however, as reported elsewhere in this issue, they have been known to “outburst” from time to time, with up to 100 meteors per hour for short periods. There is no telling what they might do in 2017!

Barely two weeks after the April Lyrids is the next noteworthy meteor event, the eta Aquariids. The meteors from this stream (along with the Orionids of October) are actually pieces of arguably the most famous comet of them all—the 76-year periodic Halley’s Comet! For this reason alone, this shower is worth watching; however, it is one of those that only performs well in the last two hours before morning twilight (4:00–6:00 a.m.). This is due to its radiant not even rising in the southeast sky until well after 2:00 a.m. in early May! It is actually a better shower from the southern hemisphere, although in Florida our latitude is low enough so we also can get a very good look. Folks much to the north of us here in Northeast Florida see little to nothing of this fascinating shower.

The long-duration maximum activity of the eta Aquariids is about a week long, centered on May 6. They can produce up to 20 to 25 majestic, long-pathed and bright meteors per hour, streaking up from the southeast each morning. I will be planning predawn meteor watches on May 5, 6, and 7 from Matanzas Inlet this year. I hope other ACACers can join me for them, as well as for the April Lyrids.

A BLAST FROM THE PAST

A POCKET GUIDE TO THE STARS

by Dave Branchett

On November 8, 1956, Belgian astronomers Sylvain Arend and Georges Roland discovered an 8th magnitude comet that bears their names: Comet C/1956 R1 (Arend-Roland). On April 8, 1957, it reached perihelion with a maximum brightness of -1 . During the early part of the month of April it remained easily visible to the naked eye in the northwest sky, from our home in England. My mother recalled that we stood outside the front gate of our home and my dad held me in his arms and pointed toward the comet and, although I have no recollection of this event, it must have stirred something within me for as far as I can recall I have always been fascinated with the stars.

My fascination with the stars may have been passed on to me through the genes on my mother's side of the family, for my grandfather came from a very wealthy and educated family. My great-grandmother was a governess at a private school for girls in Winchester, England, and my great-grandfather was involved somehow in botany and showed at the famous Royal Botanic Gardens at Kew in London (where there is an observatory).

In our home we had a handheld telescope made of brass and leather, the type of spyglass that you see in pirate movies. I recall leaning up against the southwest corner of our house to help steady myself as I looked at the rising full moon in the southeast. Despite the fact that the focus was tricky and the main objective glass had a crack all the way across it, with a lot of black specks on the optics, I did get my first closeup look at the moon.

My problem was: Where to begin to learn the stars and the constellations? I was aware there was a plough (Big Dipper), for my mother had pointed it out. But for some reason it didn't stick with me. We had books. Mom and Dad always made certain that books were under the tree on Christmas morning. We had a large set of encyclopedias that took us on adventures around the world to every nation and country, and maps—lots of maps, we loved maps—but no map of the night sky.

That all changed in August of 1969, a month before I had picked up a small pocket book titled *The Observer's Book of Astronomy*, by Patrick Moore. When leafing through its pages I felt like Captain Cook as new worlds lay before me, and for some reason a star named Vega caught my attention. But where was Vega in the sky and when and where do I look for it?

Patrick Moore also had a television show, *The Sky at Night*, which came on once a month at 11:00 p.m. I was now of the age where I could stay up and watch the show, which I did, and during the August broadcast Patrick talked about the brilliant star Vega and at what time to step outside and look up to see it. The next clear evening, now armed with this knowledge I took my pocket guidebook to the stars and a small pair of binoculars and stepped out under the night sky. Following Patrick's directions, soon I made the acquaintance of Vega, and within 30 minutes I also found my first constellation, Lyra the Harp

... followed by Cygnus the Swan and Aquila the Eagle by the close of my first hour of observing. I knew three constellations. Twelve months later I had observed all the constellations that were visible from my home in England.

Twelve years later I had the honor to appear on the television show, *The Sky at Night*, with Patrick Moore, along with another fellow amateur astronomer, Roy Panther, who was a prodigy of the great nova and comet hunter George Alcock. But that, as they say, is another story for another time. It is, however, interesting to note that *The Sky at Night* first aired in April 1957 and the first episode was dedicated to the Comet Arend-Roland.

* * *

ANOTHER BLAST FROM THE PAST

THE 1982 APRIL LYRID METEOR SHOWER

by Paul Jones

The ACAC was, in the early days, pretty much an equal opportunity observing club. We would observe anything from young moons to grazing occultations; from eclipses to the planets; from deep sky to comets, all with equal enthusiasm. If it moved or even otherwise appeared to stand still, we would turn out to observe it. Yet by the time 1982 rolled around, it became apparent that serious meteor observing would also be a prime focus of our observing programs as well.

We had already seen virtually all of the major meteor showers by then and we even tried our hand at viewing several of the minor ones, with varying degrees of success. One of the showers we had perhaps observed—at least up to that time—was the first meteor shower of spring, the April Lyrids.

Although it is considered one of the major showers, it tends to be somewhat overlooked by observers due to its usually modest and understated displays. It is caused by Comet 1861 G1 Thatcher, a long-period comet of 415 years. The maximum occurs on April 22 each year and usually produces a dependable, although unspectacular, 15 or so meteors per hour.

So, the day of April 21, 1982, dawned bright and beautiful, a classic springtime day in St. Augustine. I was keen to catch up on missed opportunities to observe the April Lyrids, as the moon was new and out of the way. I showed up just before midnight at a then newly found observing site—a small dock on the Intracoastal Waterway in St. Augustine Shores, just around the corner from where Brenda and Dave Branchett were living at the time. Back in those days, dark skies were somewhat easier to come by and this site was still a very good one.

The watch started out normally. I saw a Lyrid or two and a couple of sporadics in the first half hour or so, and I figured all was unfolding as expected. Well, that's what I get for figuring ;o). Within a few more minutes, I became witness to one of the most astonishing and surrealistic events I had ever seen up to that time!

Suddenly, in just the next few minutes, more Lyrids showed up, then even more! Soon, groups of three, four, and five Lyrids at a time were popping all over the sky. I seriously could not believe what my own eyes were telling me! They were all very short and faint and seemed to be ramping up in frequency with each passing minute. I realized that I was seeing something amazing and tried to pull myself together long enough to figure out what to do next.

I finally decided that I needed to have confirmation; otherwise, no one would believe me. This was long before the days of cell phones and I had no way to communicate other than my voice and my feet. So, my feet ran me down to Dave and Brenda's house. I was banging on their window to wake them up at one thirty in the morning, to come out and verify what I was seeing and that I was not going crazy!

I quickly returned to the dock with the display still going on, albeit by then a little less intensely. Soon, Dave and Brenda showed up, wondering just what the heck all the fuss was about! They soon began to see the same ones I was seeing, as evidence I had not gone completely off my rocker, but also that the intensity was weakening further. In about the total time of an hour and a half, from when the Lyrids "switched on," they then faded back to their normal activity level as if nothing had happened.

I was so grateful to Brenda and Dave for coming out with me on such short notice to provide the invaluable confirmation of the now famous 1982 April Lyrid outburst. We submitted our reports to all the usual sources soon after the event, and found out only one or two other observers anywhere in the world had witnessed this event. Our accounts were published worldwide and, to this day, the April Lyrids have not had another observed instance of this type of erratic behavior. The ACAC's reputation of being a cutting-edge organization grew even more as a result.

* * *

An alien landed on Earth and the first thing he saw was a canary. The alien asked, "Can you direct me to a hotel?"

"Cheep, cheep," said the bird.

"It better be," replied the alien. "Getting here cost us a fortune."

ACAC Skygazer's Almanac – April thru June 2017
(Best-bet events are in italics and underlined.)

April 2017

April 1 (Sat. evening) – The waxing crescent moon occults Aldebaran ... AGAIN!

April 3 (Mon. afternoon) – First quarter moon 2:39 p.m. EDT.

April 7 (Fri. morning/evening) – Jupiter at opposition (rises in the east as the sun sets in the west).
The waxing gibbous moon lies .7 degrees south of Regulus in Leo – occultation.

April 10 (Mon. morning) – The almost full moon lies 2 degrees north of Jupiter.

April 11 (Tues. morning) – Full moon 2:08 a.m. EDT.

April 16 (Easter Sun. morning) – The waning gibbous moon lies 3 degrees north of Saturn.

April 19 (Wed. morning) – Last quarter moon 5:57 a.m. EDT.

April 22 (Sat. evening) – Earth Day, ACAC Star Party at Matanzas Inlet and April Lyrid meteor shower maximum (anywhere from 15 to 90 meteors per hour)!!

April 23 (Sun. morning) – The waning crescent moon lies 5 degrees south of Venus.

April 26 (Wed. morning) – New moon at 8:16 a.m. EDT.

April 28 (Fri. evening) – The waxing crescent moon occults Aldebaran ... AGAIN!

April 29 (Sat. morning) – Venus at greatest brilliancy -4.4 magnitude.

May 2017

May 2 (Tues. evening) – First quarter moon at 10:47 p.m. EDT.

May 4 (Thurs. morning) – The waxing gibbous moon passes .5 degrees south of and occults Regulus in Leo.

May 5–10 (Fri.–Wed. mornings) – The eta Aquariid meteor shower reaches a broad peak that spans several mornings (up to 25 meteors per hour) – pieces of Halley's Comet.

May 7 (Sun. morning/evening) – Mars passes 6 degrees north of Aldebaran, the almost full moon passes 2 degrees north of Jupiter, Mercury lies 2 degrees south of Uranus.

May 10 (Wed. evening) – Full moon at 5:42 p.m. EDT.

May 13 (Sat. morning) – The waning gibbous moon passes 3 degrees north of Saturn.

May 17 (Wed. morning) – Mercury at greatest elongation west – 26 degrees.

May 18 (Thurs. evening) – Last quarter moon, 8:33 p.m. EDT.

May 20 (Sat. evening) – ACAC Star Party at Matanzas Inlet.

May 22 (Mon. morning) – The waning crescent moon passes 2 degrees north of Venus.

May 23 (Tues. morning) – The waning crescent moon passes 4 degrees south of Uranus and 1.6 degrees south of Mercury.

May 25 (Thurs. evening) – New moon at 3:44 p.m. EDT.

May 26 (Fri. evening) – The thin crescent moon passes 5 degrees south of Mars.

May 31 (Wed. evening) – The waxing crescent moon passes .3 degrees south of and occults Regulus in Leo.

June 2017

June 1 (Thurs. morning) – First quarter moon at 8:42 a.m. EDT.

June 2 (Fri. morning) – Venus lies 1.8 degrees south of Uranus.

June 3 (Sat. morning/evening) – Venus at greatest western elongation – 46 degrees, the waxing gibbous moon passes 2 degrees north of Jupiter.

June 9 (Fri. morning) – Full moon at 9:10 a.m. EDT and it passes 3 degrees north of Saturn.

June 14 (Wed. morning/evening) – Earliest sunrise. Saturn at opposition.

June 17 (Sat. morning) – Earliest morning twilight. Last quarter moon at 7:33 a.m. EDT.

June 20 (Tues. morning) – The waning crescent moon passes 2 degrees south of Venus. The longest day in the northern hemisphere – 15 hours at 40 degrees north.

June 21 (Wed. morning) – Summer solstice 12:24 a.m., first day of summer.

June 22 (Thurs. morning) – The waning crescent moon passes .5 degrees north of and occults Aldebaran in Taurus.

June 23 (Fri. evening) – New moon at 10:31 p.m. EDT.

June 24 (Sat. evening) – ACAC Star Party at Matanzas Inlet and the chance to spot an approximately 23-hour-old moon just after sunset and maximum of the June Bootid meteor shower!

June 26 (Mon.) – Charles Messier born on this day in 1730.

June 27 (Tues. evening) – The waxing crescent moon passes .3 degrees south of and occults Regulus in Leo. This should be awesome and a chance for an ACAC get-together to observe!

June 30 (Fri. evening) – First quarter moon at 8:51 p.m. EDT.

BENEFITS OF CLUB MEMBERSHIP

A few of the benefits of an ACAC membership are:

- obtaining in-depth knowledge about astronomy, past and present;
- being able to attend meetings where you can meet people who are experts in the field, and get to ask questions;
- an almanac providing you with a schedule of astronomical sightings that you can view wherever you are;
- stargazing parties where you can view some of those sightings in a social atmosphere with fellow members.

Once you are a member of ACAC you also become a member of the Astronomical League, which is nationwide. You will receive a quarterly copy of the *Reflector* magazine, filled with articles and information on astronomy. They also have award programs for achievements in observing and journalism, etc., for children and adults. All of the award programs and necessary requirements to win are listed in the *Reflector* magazine, along with contact people in the League, if you have any questions.

In order to change our financial year so it would begin in January (in 2018), the ACAC board had to adjust our dues structure as follows:

A \$10 joining fee covers the first year of membership (starting in any month, through December, and in any category), and annual membership renewals for subsequent years are due in January, as detailed below.

Annual membership renewal dues:

| | | | |
|-----------------------|---------|-------------------------------|---------|
| Individual Membership | \$17.00 | Senior Membership (65+) | \$10.00 |
| Family Membership | \$20.00 | Student Membership (under 18) | \$8.00 |

You can become super active or be a stay-at-home member; it's your choice. Whichever one you choose, you will learn a great deal.

EASY REFERENCE GUIDE

ACAC MAILING ADDRESS: 3609 Crazy Horse Trail, St. Augustine, FL 32086

Phone: 904-347-7254 (Paul Jones)

ACAC FACEBOOK PAGE

[HTTPS://WWW.FACEBOOK.COM/ACACSTAUGFL/](https://www.facebook.com/ACACSTAUGFL/)

ACAC MEETINGS

[HTTPS://WWW.MEETUP.COM/ANCIENT-CITY-ASTRONOMYCLUB/](https://www.meetup.com/Ancient-City-AstronomyClub/)

As a member of ACAC, you also automatically become a member of the Astronomical League (\$5.00, paid from your ACAC dues). You will receive a quarterly magazine titled *Reflector*, by email and by snail mail (your option). We encourage everyone to read this informative magazine.

ACAC BOARD OF DIRECTORS FOR 2017 – Email and phone numbers

PRESIDENT: Donald (Skip) Whitford – skipwhitford@gmail.com – 904-287-2253

VICE PRESIDENT: Paul Jones – jonesp0854@gmail.com – 904-347-7254

TREASURER: Beth Mansbridge – beth@mansbridge.net – 904-461-9564

SECRETARY: Lynne Pouliot – lynne.pouliot@gmail.com – 413-449-4285

BOARD MEMBER-AT-LARGE: Rod Paul – rodpaul99@yahoo.com – 570-590-3786

To obtain dues info or a copy of the current roster listing all members, contact the treasurer / membership person, Beth Mansbridge.

To obtain information on events listed in the Skygazer's Almanac, contact the vice president / observing coordinator, Paul Jones.

To submit stories, photos, or ideas to the editor, contact Mary Warren at morbam@aol.com – 407-323-7679.