BACK BAY observer

The Official Newsletter of the Back Bay Amateur Astronomers
P.O. Box 9877, Virginia Beach, VA 23450-9877

EPHEMERALS
november 2015

11/05, 7:30 PM
BBAA Monthly Meeting
TCC Campus, VA Beach
Building J, Rm JC-13

11/07, 5:00 PM
Skywatch
Northwest River Park

11/09, 3:00 - 4:00 PM
Crestwood Intermediate School
PTA Enrichment Program
Chesapeake, VA

11/14, 4:00 PM
Nightwatch
Chippokes Plantation
Surry, VA

Looking Up!

Well the weather is getting cooler, so it must be November. I know that I haven't spent much time under the stars due to weather this past summer, so much so that I had to refresh myself on how to use my gear when I finally got out a few weeks ago.

I like it when the weather starts cooling off and I can get out to observe more. On November 1 we also reverted back to standard time, so our nightly viewing sessions can start earlier. I'm all for that. The only problem I have with fall and winter observing is that the Milky Way is not up, so targets of opportunity can be sparse at times, unless you have a very good southern sky. This isn't necessarily a bad thing but it means you have to search a little harder to find something nice to look at.

A lot of us made it to Kent Blackwell's East Coast Star Party (ECSP) in early October. There were no eclipses this time, but it was still an awful lot of fun for all that came out. Then we had the various planetary conjunctions that occurred all October long. It was pretty cool to see 4 planets at one time naked eye!

Just a reminder for all club members, BBAA Club officer elections will be held at the November BBAA meeting, so please think about who you would like to be the officers beginning in January 2016. All officers must be replaced this go around, so if you think you would like to help with the management of the club, don't be shy, step up and help out. Until next month, keep looking up….

Jim Tallman

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A Win for the BBAA

The 2015 Mabel Stearns Newsletter Editor Award

By Bill McLean

Paul Tartabini came to BBAA, a brand new member, for his very first meeting, and we were holding elections. We needed a new newsletter editor. Can you see where this is going? It did. He raised his hand and was voted in unanimously. Thanks for raising your hand, Paul.

Our newsletter looked pretty good already but nowhere near the Astronomical League's Mable Sterns winners and runner ups. I'd look at the winner's newsletters every year when the winner was announced in the Reflector. Those newsletters really looked and functioned great! I secretly wished ours was that good.

Paul took a good production and ran with it. At first there were very few changes. Then I noticed he began tweaking little things: links to sources for additional information, nice looking pictures and layout, clutter free and easy to navigate online. He urged us to write articles and explained he'd smooth them out if need be. He was, and is, more than willing to edit and fix up our submissions and make them read and look great.

After a year or so he put out some really well done issues and in 2014 I got it in my mind that he should be nominated for the Mabel Sterns Award. I asked Paul to give me a blurb about his editorship and a photo of him in an astronomical setting. He sent me a very good piece. If I remember right I turned it into a nomination that had to come from Jim for the Sterns Award. As president Jim has to do the nominating. I put what I had together and forwarded it to him. Jim tweaked the nomination and submitted it.

We were thrilled Paul won third place! I was going to leave things alone at that point. Then Paul put out some really superb issues and I felt had to set him up for nomination again. I did. Jim did. And guess what? Paul won first place this year! Now when the awards were announced in the Reflector I didn't look at the winner's newsletter because I had already read it.

Here is Paul's editorial policy/philosophy that has made the Observer so good it won the Mabel Sterns award :

Paul Tartabini proudly accepts the 2015 Mabel Stearns Award from the BBAA Astronomical League Coordinator, Bill McLean, at the September BBAA Meeting.

- Provide content that appeals to a broad member base -- from novice to experienced ('getting started in astronomy' articles, product reviews, adventures in astrophotography, etc).
- Be positive and encouraging to club members (by sharing & praising accomplishments, astro images, observations, sketches, etc).
- Keep members "plugged in" to the club by including a message from the President, meeting summaries and up-to-date calendar entries.
- Include lots of articles and photos by members.
- Share in member's experiences (trip reports, college classes, outreach).
- Pass on knowledge from experienced folks to beginners (e.g., reviews, how-to articles, etc)
- Be a cheerleader for the club, especially when it comes to highlighting the good it achieves through its outreach efforts.
- Publish outreach reports to encourage more club participation, show that outreach is fun, that outreach is 'possible' -- anyone with the will to do it can do it.
- Provide information and encouragement on AL Programs and encourage AL Programs that are "off the beaten path."

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The Back Bay Amateur Astronomer's
Observer

The BBAA Observer is published monthly; the monochrome version is mailed to members who do not have internet access. Members who do have Internet access can acquire the full color version on the Internet at **http://www.backbayastro.org/observer/newsletter.shtml**

Please submit articles and items of interest no later than the date of the monthly meeting in order to be in the next month's edition.

Please submit all items to: bbaa.newsletter@gmail.com or BBAA Observer, P.O. Box 9877, Virginia Beach, VA

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BBAA Meetings

The BBAA meet the first Thursday of every month except for July. While school is in session, we meet at the VA Beach TCC Campus. The **Nov. 5, 2015** meeting will be held at TCC in Virginia Beach, Building J, Rm JC-13 (or nearby room) at 7:30 PM. Directions are on our Night Sky Network page.

BBAA Internet Links

BBAA Website
www.backbayastro.org

Yahoo! Groups
tech.groups.yahoo.com/group/backbayastro

BBAA Observer Newsletter
www.backbayastro.org/observer/newsletter.shtml

Mabel Stearns Award, continued from page 2

- Notify the club about cool astro events to watch out for (comets, eclipses, Jupiter moon events and the like) and enhance, if possible, with info/images from BBAA members.
- Chronicle the club. It's good to look back and see what the club was doing at a given time, who was active, what kinds of things were being discussed, who spoke at the meetings, what celestial sights were discussed, if the weather was unusually good or bad, etc.
- Be different; avoid generic articles and star charts like you might read in a magazine.
- Provide unique, general interest astronomy articles (e.g., NASA space place, etc). I put this lowest on the totem pole because I want to highlight the club and its members, but I recognize there are many members who enjoy this kind of content and there are good articles from NASA especially for astronomy club newsletters (and thus unique).
- Maintain an "easy on the eyes" look and feel of the newsletter.
- Make it easy for members by offering to polish up their articles.
- Above all make sure that whatever is published is interesting and appealing to me. If I'm bored with it, everyone will be.

Paul, congratulations from every member of our humble but excellently (national award winning) newslettered club. Thanks also to the English department at Purdue -- they did a good job with you! Go Boilermakers!

Monthly Meeting Reports

September 3, 2015 Meeting

The meeting was called to order at 7:33 pm by President Jim Tallman.

- Chuck Jagow read a letter from our latest scholarship recipient, Daniel LeBrun, whom is now attending George Mason University.

- Bird Taylor and Mark Croom met with Dr. Carlos Salgado to discuss use of the Rapid Response Robotic Telescope (RRRT) on Fan Mountain. Dr. Salgado has not responded yet to the items discussed.

- ALCOR, Bill McLean, awarded Mark Gerlach his Astronomical League Messier Pin and presented the Mabel Stearns Award to BBAA newsletter editor Paul Tartabini for winning first place in the annual competition. Bill also reported that *The Reflector,* the quarterly newsletter of the Astronomical League, is now available online.

- Bill McLean passed out some International Dark-Sky Association (IDA) brochures explaining the problem of light pollution. He said that Secretary Leigh Anne Lagoe has a case of brochures, if members want to distribute them.

- A committee has been meeting to update the constitution and bylaws to make the wording conform to the club's "incorporated" status and to raise the annual dues to $23. This is the first dues increase in at least 15 years or more.

- Chuck Jagow has applied to the City of Chesapeake in the club's name for a special use permit to use Cornland Park for observing on the Fridays before and after New Moon.

ALCOR, Bill McLean, presents Mark Gerlach with his AL Messier Award.

- Jeff Goldstein suggested the club have a workshop on radio astronomy. He has the parts for making a "Jove Project" receiver to listen to the skies. He says he will send out an email to the membership to determine the interest.

- Observing Reports: Several members reported seeing some Perseids. Mark Gerlach told of his trip to the National Radio Astronomy Observatory in Green Bank, West Virginia.

- The business meeting adjourned at 8:06 PM and reconvened downstairs in the TCC Planetarium, where Prof. Kenny Broun gave a "Time Warp" laser show set to the music of the 50s, 60s and 70s followed by a planetarium show warning us of potential world-ending disasters.

September Minutes taken by George Reynolds.

October 1, 2015 Meeting

Meeting was called to order at 7:30 PM, in the planetarium at TCC in Virginia Beach, Rm JC10, by president Jim Tallman.

- **Treasurer's Report**: Chuck Jagow reported $2224.81 in the General Fund and $1142.67 in the Scholarship Fund. He expects a $1000 check for Boardwalk Astronomy. Astronomy Magazine Calendars are available for purchase: $6.50 each.

- **Vice President's Report**: Bylaws Committee needs to proofread the revised documents & a meeting will be set to discuss them.

Observing Reports:

- Several members took advantage of the 1-2 weeks of clear skies.

- Girl Scout Encampment at Camp Silver Beach was a success. Naked eye Andromeda.

- Fall Astronomy Day & Library Telescope Donation: several people stopped by to view the sun & take home handouts.

- The library telescope has been modified and donated to Virginia Beach Public Libraries. The Princess Anne Library is working on developing a program for patrons to check out the telescope.

- Lunar Eclipse Watch at Chesapeake Planetarium & at the VLM were both a success. Clouds early on parted near total eclipse

Featured Program: *Cloud-tracking Wind Measurements on Saturn*

- Guest speaker John Blalock, a graduate student at Hampton University, discussed the work he is doing to study wind & cloud movement on the ringed planet.

October Minutes taken by Leigh Anne Lagoe.

NASA's Space Place

How we know Mars has liquid water on its surface

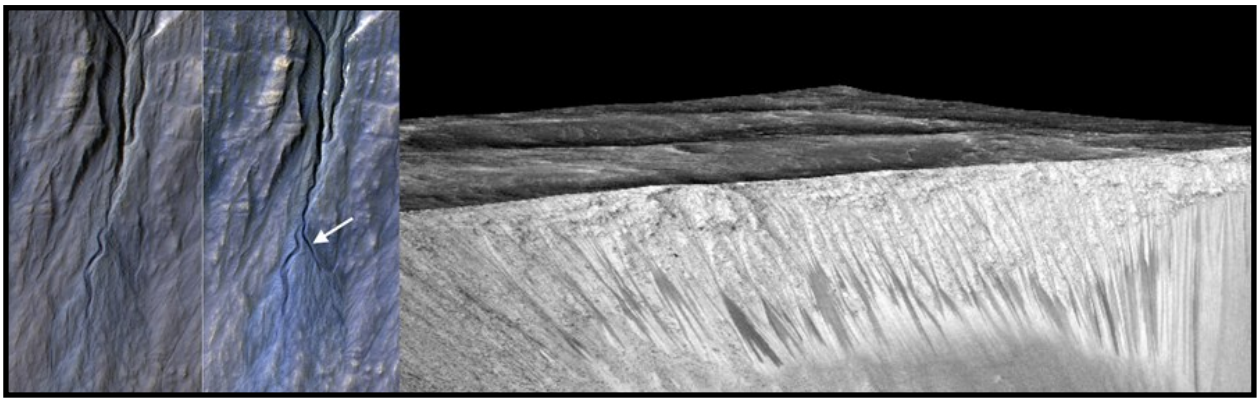
By Dr. Ethan Siegel

Of all the planets in the solar system other than our own, Mars is the one place with the most Earth-like past. Geological features on the surface such as dried up riverbeds, sedimentary patterns, mineral spherules nicknamed "blueberries," and evidence of liquid -based erosion all tell the same story: that of a wet, watery past. But although we've found plenty of evidence for molecular water on Mars in the solid (ice) and gaseous (vapor) states, including in icecaps, clouds and subsurface ices exposed (and sublimated) by digging, that in no way meant there'd be water in its liquid phase today.

Sure, water flowed on the surface of Mars during the first billion years of the solar system, perhaps producing an ocean a mile deep, though the ocean presence is still much debated. Given that life on Earth took hold well within that time, it's conceivable that Mars was once a rich, living planet as well. But unlike Earth, Mars is small: small enough that its interior cooled and lost its protective magnetic field, enabling the sun's solar wind to strip its atmosphere away. Without a significant atmosphere, the liquid phase of water became a virtual impossibility, and Mars became the arid world we know it to be today.

But certain ions—potassium, calcium, sodium, magnesium, chloride and fluoride, among others—get left behind when the liquid water disappears, leaving a "salt" residue of mineral salts (that may include table salt, sodium chloride) on the surface. While pure liquid water may not persist at standard Martian pressures and temperatures, extremely salty, briny water can indeed stay in a liquid state for extended periods under the conditions on the Red Planet. It's more of a "sandy crust" like you'd experience on the shore when the tide goes out than the flowing waters we're used to in rivers on Earth, but it means that under the right temperature conditions, liquid water does exist on Mars today, at least in small amounts.

The measured presence and concentration of these salts, found in the dark streaks that come and go on steep crater walls, combined with our knowledge of how water behaves under certain physical and chemical conditions and the observations of changing features on the Martian surface supports the idea that this is the action of liquid water. Short of taking a sample and analyzing it in situ on Mars, this is the best current evidence we have for liquid water on our red neighbor. Next up? Finding out if there are any single-celled organisms hardy enough to survive and thrive under those conditions, possibly even native to Mars itself!



A newly-formed gully on the Martian surface (L) and of the series of gullies where the salt deposits were found (R). Images credit: NASA/JPL-Caltech/Univ. of Arizona.

ASTROPHOTOGRAPHY SHOWCASE

A Productive East Coast Star Party

By Jim Tallman

Editor's Note: If you haven't made it to an East Coast Star Party (ECSP), you're missing out! Long time BBAA member and all-around Astronomy Guru, Kent Blackwell, throws two star parties each year at Hampton Lodge Campground in Coinjock, NC, near the outer banks. The party is a great excuse to hang out with like-minded star junkies and observe the beauty of the heavens. If you ask any regular attendee they will tell you it is the best star party around. Perhaps one reason for that is that there is something for everyone at the ECSP. Whether you like visual observing, astroimaging or socializing, you will find it there!

As for astroimaging, there is a whole section of the campground that is known among the star partiers as "Imager's Row." I often set my scope up near imager's row as it affords a nice view of the southern horizon. But being a visual observer, I often wondered what became of the zillions of photons that were being captured by my fanatical photography neighbors. Fortunately, Jim Tallman has sent some of his finest images from the last ECSP that was held Oct. 8-12, 2015. I am sure you will marvel and enjoy these images and Jim's commentary as much as I did.

Here is my shot of M81 or Bode's Nebula (right) and M82, a cigar galaxy (left). Both are in Ursa Major and are roughly 12 Million Light Years away from us. They were discovered by Johann Elert Bode in 1774, and added to the Messier Catalog in 1779.

I took this series of shots at the East Coast Star Party on 8/9 October. Actually I set the scope, camera, and computer up to take the shots and I went to bed When I got up again early morning it was just finishing up.

The image was taken with a 5" Takahashi Refractor, Losmandy G-11, Mount, Canon T3i camera. Composite of 30 Light frames, 48 Dark frames, 20 Bias and Flats .

Continued on page 7

Astrophotography Showcase, continued from page 6

I took this picture at the East Coast Star Party on Oct. 8, 2015. I really like how the blue came out in it. This was taken with a 5" Takahashi Refractor, G-11 mount, unmodified Canon T3i. The final picture is a stack of 18 lights at 8000 ISO for 600sec (10 minutes each) exposures, 18 Bias, 39 Darks, 30 Flats. Processing was done using PixInsight.

The galaxy is Messier 33 (M33) or the Triangulum Galaxy. It is a spiral galaxy roughly 3 million light-years from Earth in the constellation Triangulum, and is sometimes informally referred to as the Pinwheel Galaxy, a nickname it shares with Messier 101. The Triangulum Galaxy is the third-largest member of the Local Group of galaxies, which includes the Milky Way, the Andromeda Galaxy and about 44 other smaller galaxies. It is one of the most distant permanent objects that can be viewed with the naked eye.

Finally! I got a good set of shots for a great nighttime favorite! Here is a shot of the Andromeda Galaxy that I took earlier this month from a dark spot in North Carolina. This one is our closest neighbor, galaxy-wise, at a mere 2.5 Million light years away. Eventually we will collide but I'm not going to worry about that for now.

This is actually 20 seven-minute light frames, 30 Dark frames, 25 Bias and Flat frames, all combined to bring out the details.

The smudge at the top left is another galaxy called M110, and the bright star looking thing to the right of center is not a star, it is another galaxy called M32. All three were discovered in the 1700's.

November 2015

BBAA Events	Special Outreach	Astronomical Events
11/05 BBAA Monthly Meeting		11/02 Last Quarter Moon
11/07 Skywatch @ Northwest River Park		11/11 New Moon
	11/09 Crestwood Intermediate PTA Enrichment Program	11/18 First Quarter Moon
11/14 Nightwatch @ Chippokes		11/25 Full Moon
		11/26 Moon occults Aldeberan

Sneak Peek into December

Thu 12/03/2015 Monthly Meeting, TCC, 7:30 pm
Sat 12/05/2015 Skywatch at Northwest River Park, 8:00 pm
Sat 12/12/2015 Nightwatch at Chippokes Plantation, 7:00 pm