



BACK BAY OBSERVER

Feb
2019

The official newsletter of the Back Bay Amateur Astronomers

COMING UP

Feb 7 **BBAA Meeting**
7:30-9PM
TCC, Virginia Beach

Feb 8 **Silent Sky**
10-11PM
Little Theatre of VB

Feb 8 **Cornwatch**
dusk-dawn
Cornland Park

Feb 14 **Garden Stars**
7-8:30PM
Norfolk Botanical Gardens

Feb 16 **Saturday Sun-day**
10AM-1PM
Elizabeth River Park

Feb 23 **Skywatch**
6PM-10PM
Northwest River Park

For more information, go to
www.backbayastro.org/

CONTENTS

Gamma Burst **2**
Eclipse Collage **3**
NSN Article **6**
Heart Nebula **7**
Club meeting **10**
Winter DSOs **11**
Contact info **16**
Calendar **17**

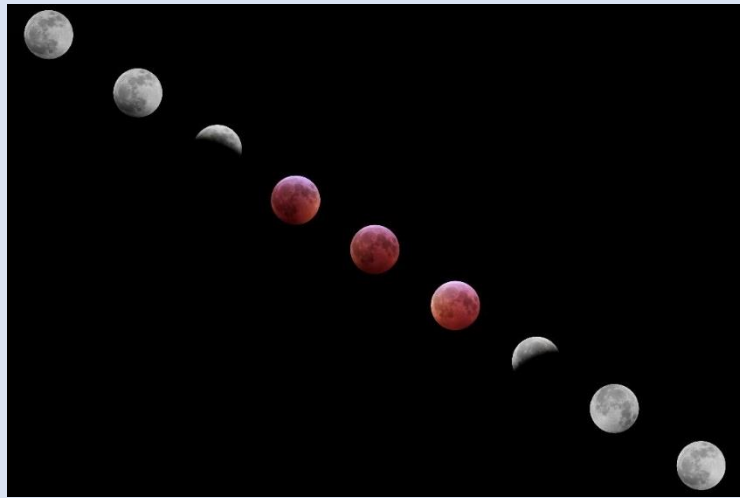


Photo by Chuck Jagow
Canon 60Da, various exposures, iOptron mount with an Orion 80ED
The best 9 out of 3465 images taken from about 10:00 PM on the 20th through 2:20 AM on the 21st. Unprocessed images (only cropped).

LOOKING UP! *a message from the president*

This month's most talked about astronomy event has to be the total lunar eclipse. The BBAA participated by supporting the Watch Party at the Chesapeake Planetarium. Anyone in attendance will tell you it was COLD, but manageable if you wore layers, utilized the planetarium where Dr. Robert Hitt seemed to have the thermostat set to 100 degrees, and drank copious amounts of the hot coffee that Kent Blackwell brewed in the back office.

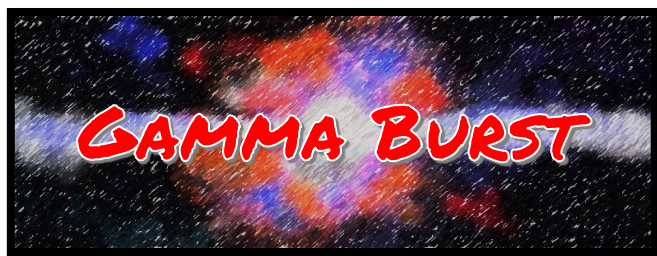
The event had a huge following on Facebook but with the cold temperatures, we weren't sure how many would come out. By Kent's estimate there were between 100–200 people in attendance. Many club members set up telescopes, as well as a few members of the public too. The views of the eclipse were exceptional and, based on my interaction with the visitors, they agreed.

I want to thank all of the club members who came out and shared their views of the night sky with the public. Just after totality ended, members and visitors packed up and rapidly went home. Except for Chuck Jagow who stayed to finish his imaging sequence in the photo above.

Continued on page 2



The BBAA is a member organization of the Astronomical League.



The BBAA secretary, **Kayla Robinson**, is a Norfolk State University junior, studying computer science and cybersecurity. She's been interested in astronomy since childhood.

"The vastness of the universe is humbling, and I love knowing that there is always going to be more out there waiting to be discovered," Kayla said.

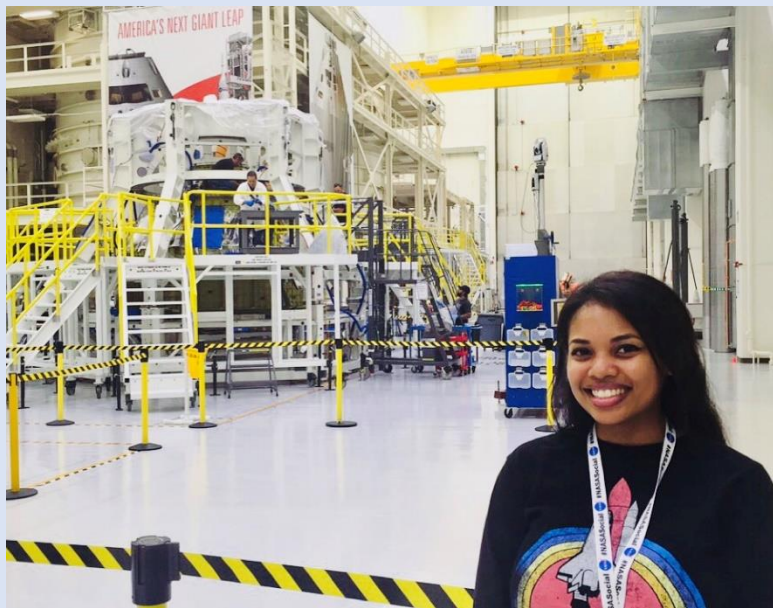
Kayla's former professor and BBAA member, Jeff Goldstein, recommended that she join the club and take over as secretary for 2019.

"I chose to step up because I see how much the club does for the community, and I want to be a part of that," Kayla said.

In addition to her role as secretary, she helps manage the club's social media pages.

Kayla said, "I am hoping to use my roles in the BBAA as a way to encourage more students and younger individuals to join and diversify the club."

Welcome, Kayla. We're excited to have you!



Kayla Robinson visits NASA Kennedy Space Center. Engineers behind her work on the Orion spacecraft.

Looking Up! Cont'd

In last month's issue I forgot to add how I got into astronomy. My wife bought my first telescope for Christmas in 2012, and after lurking around the club for 6 months I became a member in June of 2013.

I attended my first BBAA event at the Northwest River Park that summer and had the good fortune to park next to Kent Blackwell. I can honestly say that if I had not met Kent, there is a very high chance that I would have lost interest in astronomy. My telescope was giving me a LOT of trouble.

When you are new to astronomy you may be unaware—like I was—of how important the mount is in ensuring that you can find an object in the night sky. Kent loaned me an eyepiece that evening that was about twice the cost of the telescope I was using, and I discovered that: 1. This telescope works, and 2. The

mount for my telescope needs to be destroyed immediately.

That first experience at an outreach event set me on a path to upgrade my equipment and fostered an even greater interest in learning about astronomy. (Thanks Kent.)

I am writing this anecdote to reinforce the importance of the club's outreach events. You never know who you will inspire to take up this hobby that we all enjoy.

I encourage all of you to come out. Keep an eye on our club calendar because we have numerous outreach events coming up besides the regular monthly events. Until then, keep looking up.

Shawn Loescher

ECLIPSE PHOTO COLLAGE

BBA members supported the Total Lunar Eclipse Watch at the Chesapeake Planetarium. Others enjoyed the view from home. Here are some pictures and social media screenshots from around the club.

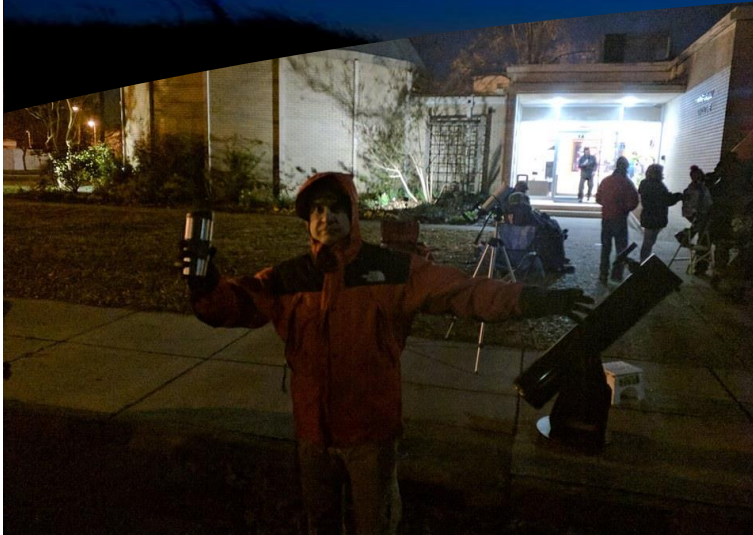


Image by Chuck Jagow



Image by David Read



Arch Fred Walpole

January 20 at 11:45 PM

At 2330, while watching the lunar eclipse, I've just seen my first ever fireball. West by south by west. 30 degrees up. Moving rapidly right to left. Trailing burning fragments. Fantastic!

👍❤️👹 You, Maya Ashley, Kayce Cover and 14 others

2 Comments



Love



Comment



Share



Bill Grover I saw that over in South Norfolk, amazing!

Like · Reply · 3d



George Reynolds Some of the folks at the Eclipse Watch at Chesapeake Planetarium saw it too. I happened to be looking in the wrong direction at the time.

Like · Reply · 1d



ECLIPSE COLLAGE



Image by Vincent Pendleton

January 20, 2019 Lunar Eclipse
Kent Blackwell

Meteor
Impact



Isaac Ammerman

January 20 at 1:07 PM

In case you're not able to make it to see the Moon tonight, Here's a tortilla on a window. lol



👍👍👍 You, Curtis Lambert, Shawn Loeschner and 52 others · 3 Comments · 2 Shares

😂 Haha

💬 Comment

➦ Share

View 1 more comment



Carol Summers And this is really clear. Good one!

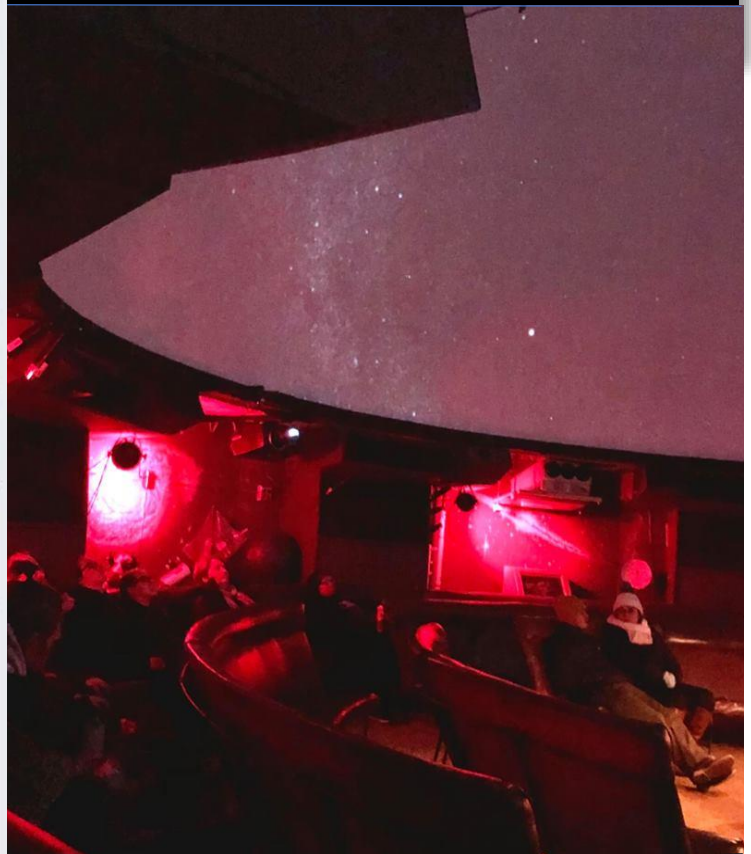
Like · Reply · 4d



Bill Grover Registax? 😊

Above:

A meteor impact occurred during the early stages of totality. No one had ever witnessed an impact during a lunar eclipse. Captured by Kent Blackwell.



ECLIPSE COLLAGE



Image by Shawn Loescher



Image by Kayla Robinson



Robin Grier

January 21 at 12:28 AM

Seen through the skylight over my bed 📱📱 iPhone X, so photo is not as clear as the naked eye. Breathtaking, nonetheless 🤩



You, Vincent Pendleton, Ray Moody and 29 others



Abby Cabuno

January 21 at 9:54 AM · 🌐

thank you sincerely for holding this event, it was magical. 🐱🌙✨

👍❤️ Eileen McGuckian, Sandra Mikrut and 2 others

👍 Like

💬 Comment



Write a comment...



Hexagon at Night, Quartet in the Morning

By David Prosper

The stars that make up the **Winter Hexagon** asterism are some of the brightest in the night sky and February evenings are a great time to enjoy their sparkly splendor. The Winter Hexagon is so large in size that the six stars that make up its points are also the brightest members of six different constellations, making the Hexagon a great starting point for learning the winter sky. Find the Hexagon by looking southeast after sunset and finding the bright red star that forms the “left shoulder” of the constellation Orion: **Betelgeuse**. You can think of Betelgeuse as the center of a large irregular clock, with the Winter Hexagon stars as the clock’s hour numbers. Move diagonally across Orion to spot its “right foot,” the bright star **Rigel**. Now move clockwise from Rigel to the brightest star in the night sky: **Sirius** in Canis Major. Continue ticking along clockwise to

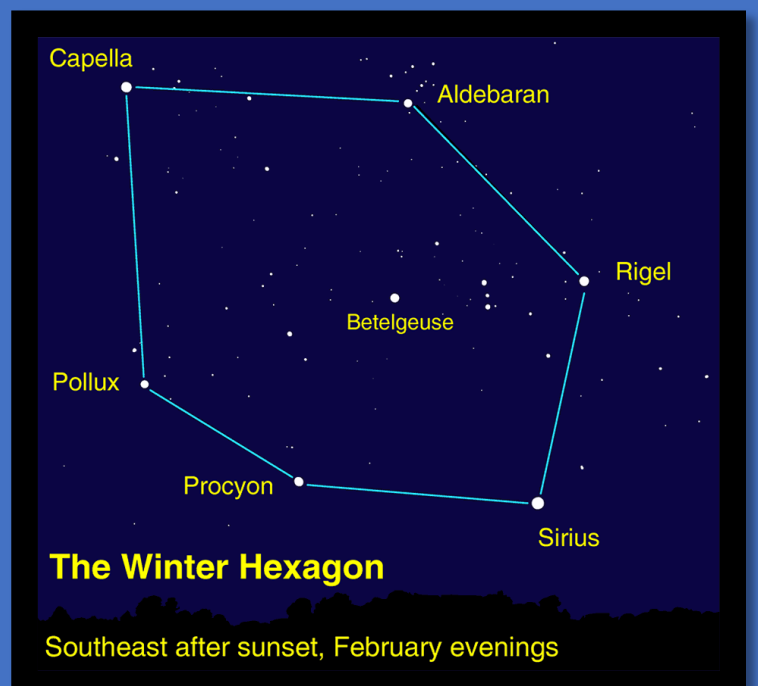
Procyon in Canis Minor and then towards **Pollux**, the brighter of the Gemini twins. Keep moving around the circuit to find **Capella** in Auriga, and finish at orange **Aldebaran**, the “eye” of the V-shaped face of Taurus the Bull.

Two naked-eye planets are visible in the evening sky this month. As red **Mars** moves across Pisces, NASA’s InSight Mission is readying its suite of geological instruments designed to study the Martian interior. InSight and the rest of humanity’s robotic Martian emissaries will soon be joined by the Mars 2020 rover. The SUV-sized robot is slated to launch next year on a mission to study the possibility of past life on the red planet. A conjunction between Mars and **Uranus** on February 13 will be a treat for

Continued on page 10

Can You Spot the Winter Hexagon?

With its bright six stars, this giant asterism can be a key to finding many winter constellations. Telescope users are treated to a conjunction between **Mars** and **Uranus** in the evening. **Mercury** makes a good appearance above the western horizon after sunset. Morning observers are treated to shifting lineups of **bright planets** with the **Moon** at the beginning and end of the month, along with a conjunction of **Venus** and **Saturn**.



OBSERVER'S CORNER

The Heart Nebula

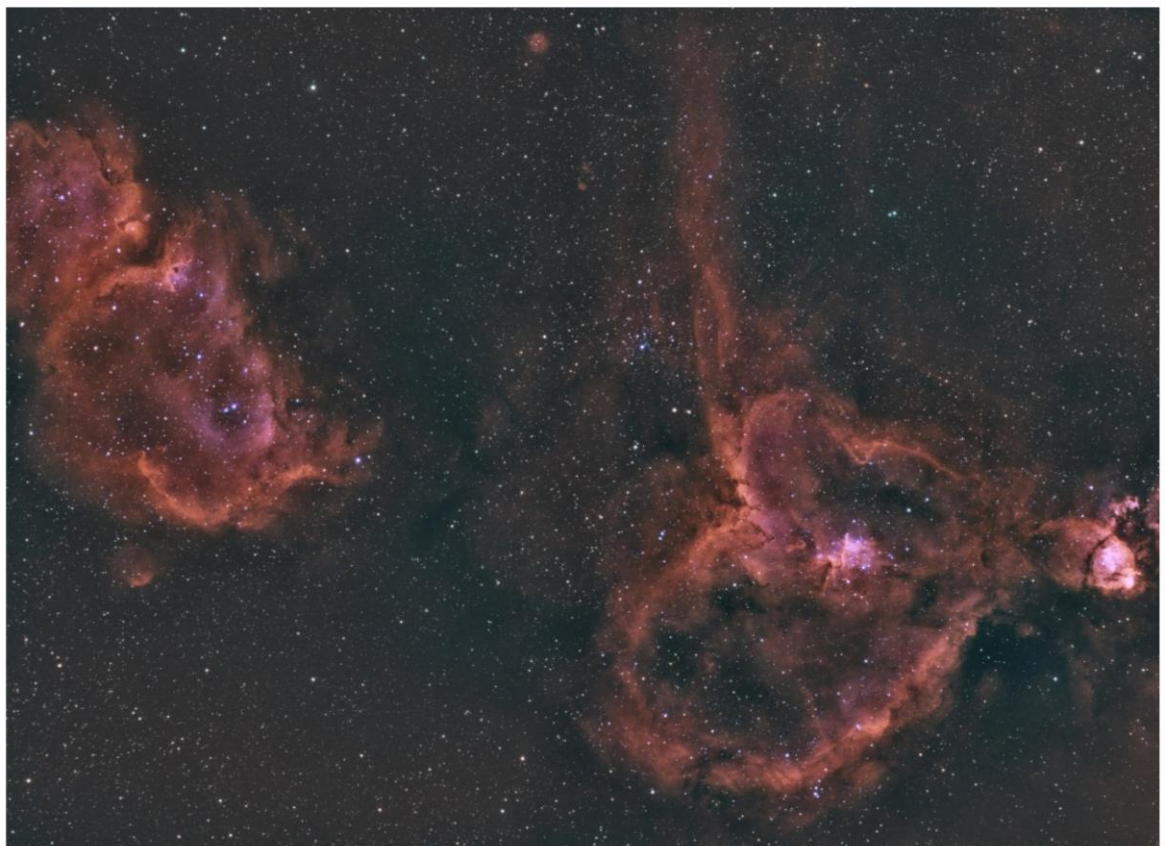
By Dan Pelzel

With Valentine's Day approaching, let's talk about the Heart Nebula. The Heart Nebula, AKA IC 1805, is 7,500 light years away in the constellation Cassiopeia. IC 1805 looks strikingly red in many pictures. This is because it is made up of H II, ionized Hydrogen. The Hydrogen is superheated by nearby stars. Specifically, the open cluster known as Melotte

15, found in the center of the nebula. These images are all done with narrowband filters—they only let in a very specific, narrow bandwidth of light. This allows you to single out specific parts of an emission nebula. It also effectively blocks out a lot of light pollution. I have 3 different images of this region I'd like to share.

The first image (below) is a mosaic made up of 4 panels using an 80mm refractor. Here, the image is mostly red and blue. This is a false

Continued next page



Link to photo: <https://www.astrobin.com/full/276842/0/?nc=FireManDan&real=>

Heart Nebula cont'd

color image made up of narrowband data. I only used two channels here. Hydrogen alpha, which picks up the glowing Hydrogen, H II and Oxygen 3. H II is found in the red part of the visible spectrum while Oxygen 3 is found in the blue/green parts. I assigned Ha to red and O3 to green and blue making this close

to a true color image. The image also shows the Soul Nebula, IC 1848, as well as various star clusters, planetary nebula, and dust lanes. This image was made up of 15 hours of exposures. That might sound like a lot, but that is divided by two channels and then divided by four panels.



Link to photo: https://www.astrobin.com/full/268185/C/?image_list_page=2&nc=&nce=&real=

The second image (above) is using the same telescope from the previous image, but only using one of the mosaic panels. I was able to take the two channels from the mosaic, add a bit to it, and include the third channel for a typical narrowband image. This is only 6 hours of data. You'll notice this is a very different color. While the mosaic is a false color image, the color channels were assigned to the colors as they appear visually. This is a different palette.

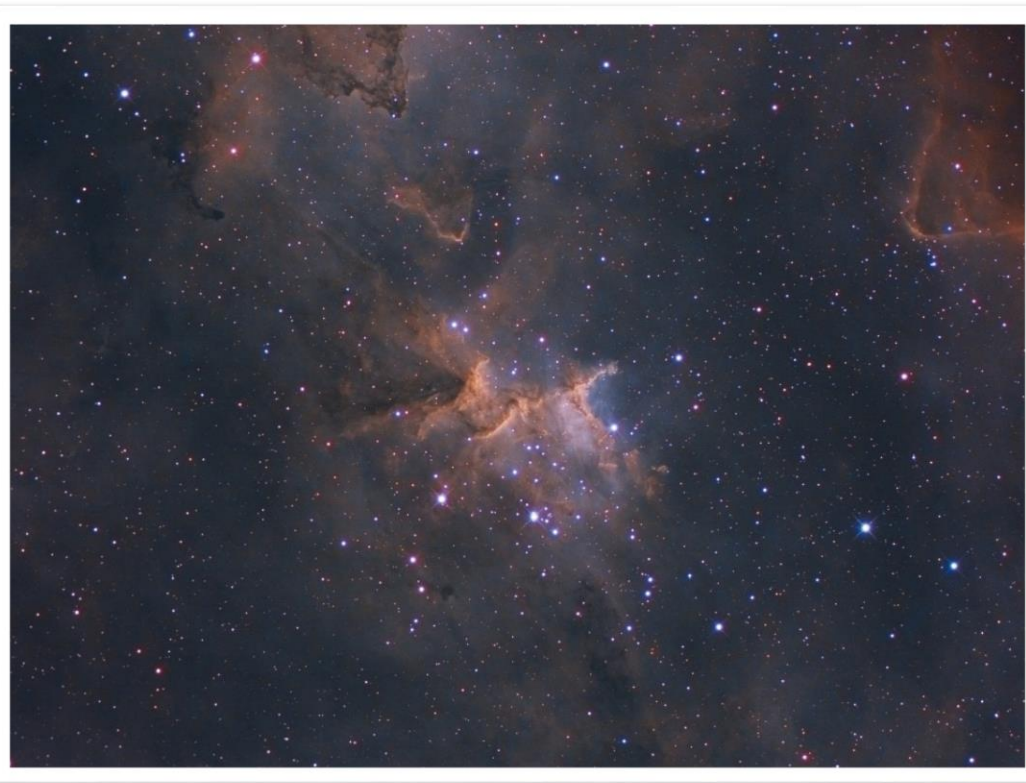
is known as the Hubble palette, AKA SHO. Here there are three narrowband filters used, the Hydrogen alpha and Oxygen 3 as mentioned before but a 3rd channel, Sulfur II. S II is found further into the red spectrum. The reason this palette is known as SHO is because the filters are assigned in that order. So an RGB image is mapped Red = Sulfur II, Green =

Continued next page

Heart Nebula cont'd

Hydrogen alpha, Blue = Oxygen III. This is essentially how many of the Hubble images are mapped, specifically the Pillars of Creation.

The third image is an area found within the heart of the Heart Nebula—Melotte 15. It's the star cluster responsible for much of the glowing hydrogen that makes the Heart Nebula, and it has a very interesting twisting pillar-like structure that's created by the stellar winds from the nearby stars. This is actually data from two telescopes—my 80mm refractor and my 200mm Ritchey–Chrétien. The data from the 80mm makes up the color data and the 200mm data is the luminosity/detail data. It's actually roughly mapped the same as the above image but I had to edit the colors a bit to show off some of the fainter structures. You can see the same structures in the other images, but the bigger telescope allows you to get a closer look. This one is made up of 17 hours of data.



Link to photo: <https://www.astrobin.com/full/322698/C/?nc=FireManDan&real=>



Dan Pelzel was exposed to astronomy at the age of four. He fell in love with the star-filled pages of astronomy books, and though he was too young to properly look through the eyepiece of his dad's telescope, Dan was intrigued.

His casual interest continued until 2015, when Dan got his first telescope—an 8" dobsonian. Blown away by the Moon's craters, he snapped a picture through the eyepiece, and his obsession with astrophotography was born.

Dan is a firefighter/paramedic who lives in Chesapeake with his wife and 2-year-old son. Other hobbies include powerlifting, and playing the drums and guitar.

CLUB MEETING

We met for our monthly meeting on January 3rd at the Virginia Beach Planetarium at Plaza Middle School.

After normal business, Chuck Dibbs treated us to a tour of the night sky on the planetarium dome. After the presentation, we watched a thirty minute video on black holes.

Meeting minutes are posted at <http://backbayastro.org/documents.php>



Image by Kayla Robinson

The Back Bay Amateur Astronomers meet on the first Thursday of each month from 7:30 – 9pm.

Typically, we meet at TCC Virginia Beach on the second floor of **Building J—the Science Building**, in room JC-11. (room may vary.)

Occasionally, we meet at either TCC's planetarium on the first floor, or at the Plaza Middle School planetarium.

All meetings are free and open to the public. After normal business, there is usually a presentation.

Hexagon at Night cont'd

telescopic observers. Mars will pass a little over a degree away from Uranus and larger magnifications will allow comparisons between the small red disc of dusty Mars with the smaller and much more distant blue-green disc of ice giant Uranus. Speedy **Mercury** has a good showing this month and makes its highest appearance in the evening on February 27; spot it above the western horizon at sunset. An unobstructed western view and binoculars will greatly help in catching Mercury against the glow of evening twilight.

The morning planets put on quite a show in February. Look for the bright planets **Venus**, **Jupiter**, and **Saturn** above the eastern horizon all month, at times forming a neat lineup. A crescent **Moon** makes a stunning addition on the mornings of February 1-2, and again on the 28th. Watch over the course of the month as Venus travels from its position above Jupiter to below dimmer Saturn. Venus and Saturn will be in close conjunction on the 18th; see if you can fit both planets into the same telescopic field of view. A telescope reveals the brilliant thin crescent phase of Venus waxing into a wide gibbous phase as the planet passes around the other side of our Sun. The Night Sky Network has a simple activity that helps explain the nature of both Venus and Mercury's phases at <https://nightsky.jpl.nasa.gov>

You can catch up on all of NASA's current and future missions at nasa.gov

**This article was distributed by NASA
Night Sky Network**

Visit <https://nightsky.jpl.nasa.gov/>

Winter Deep-Sky Objects

By Kent Blackwell

As spring approaches I thought it would be nice to view a few select objects before they set in the western sky. The winter offers some interesting deep-sky objects for the amateur astronomer. I'll discuss a few in this article. Some are quite bright and easy for small telescopes, while others will require a bit of patience and larger apertures. I'd be interested in hearing descriptions of how any of these objects appear in your telescope.

M 31 Andromeda 00h 43m +41 16'. At a distance of 2.5 million light years M 31 is one of the closest galaxies to our own, yet is also the most distant naked eye object visible from northern latitudes. I'm often amazed when amateurs are surprised to see it naked eye. It surely proves how light polluted our skies have become because M 31 is 4.5 magnitude, and therefore should present little challenge under a dark sky. My finest view of the *Great Andromeda Galaxy* was with a pair of giant 20x120 binoculars. However, it's almost equally as impressive in standard run-of-the-mill 10x50s. Large telescopes are not always ideal; the galaxy is so huge the image spills out of the field of view.

G 1 Andromeda 00h 33m +39 35'. Are you in the mood for something difficult? How about a globular cluster lying in M 31, the Great Andromeda Galaxy? You say there is no globular in that region. Actually there is, and being part of M 31 lies completely outside our own galaxy. Designated as **G 1**, it is the brightest of all globulars in the Andromeda Galaxy. Seldom mentioned, not because of its faintness, but because it lies nearly 2 ½ degrees from M 31.



Screenshot taken from Stellarium Mobile App
Date set to 2/14/2019 <http://www.stellarium.org>
Mirach's Ghost (NGC 404) top left. Andromeda Galaxy (M31) Right.

NGC 404 Andromeda 01h 09m +35 43'. (Mirach's Ghost). Many people don't consider looking for the seldom-observed elliptical galaxy NGC 404. It's easy to locate at only 6' NW of the star Mirach, or Beta Andromedae. The galaxy is so close to that star it'll appear in the same field of view. People often don't know about it because M 31 tends to get all the attention. The 11th magnitude galaxy can easily be seen in telescopes as small as 3".

M 44 in Cancer 08h 40m +19 40'. M 44 is known by several names, including *Praesepe*, or manger. In this case manger means a trough for feeding livestock. From information I've gathered, the name predates the invention of the telescope. Hipparchus (130 B.C.) called it *Little Cloud*.

A more modern name is *Beehive*, and certainly describes the object's appearance in a small telescope. I have seen the name *Bee Hive* (note the spelling) mentioned in "A High School Astronomy", an 1854 book by Lewis Rutherford. Visible to the naked eye the cluster contains several hundred stars. A low power, wide-field telescope

Continued next page

will give the best view, but moderate-to-large apertures will show no fewer than 7 galaxies embedded within M 44, all quite faint. Are you up to the challenge? Can you see any of them in an 8" telescope? Let me know if you have any luck.

PB 1 (Piembert 1), aka PK 226-3.1, aka Sanduleak 2-2, Canis Major 07h 03m -13 42'. An obscure planetary nebula, it is seldom listed in star atlases. I was glad to see it has been included in the 2nd Edition of the new *Uranometria Atlas 2000*. You'll also find reference to it in Stephen Hynes' out of print book, *Planetary Nebulae* and most recently in the iOS and Android mapping program, *SkySafari Pro*. At 13th magnitude PB 1 is only 6" in size. Use an OIII filter, and "blink" the filter quickly between your eye and the eye lens. The object will seem to outshine similar faint stars when doing so. Because of the small size use at least 150-200x.

NGC 2359 Canis Major 07h 18m -13 14'. This is one of my favorite deep-sky objects, yet is often ignored in observing manuals. Sometimes called *Thor's Helmet* as well as the *Duck Nebula* NGC 2359 is associated with a Wolf-Rayet star, a class of hot stars exceptional for their large stellar winds. The object responds very well to nebula filters. No matter what telescope you're using, don't miss it. With a nebula filter I was able to see it in a 10x40 finderscope so don't be intimidated thinking it might be too faint for your telescope.

NGC 2362 Canis Major 07h 19m -24 57'. Some often refer to this as the *Mexican Jumping Bean* cluster. Containing 30-40 stars it's easily found surrounding 4^h magnitude Tau Canis Majoris. Only one million years old, NGC 2362 is one of the youngest clusters known. Tau is strongly suspected of being associated with the cluster. If so it is one of the most brilliant stars in our entire galaxy.

Stock 2 Cassiopeia 02h 15m +58 25'. Here's one you won't find on many star charts. It's an interesting open cluster visible only in low power instruments, preferably binoculars. What's remarkable about this little cluster is the fact it is shaped like a headless stick figure drawing of a man flexing his muscles. To find it, move about 1 ½ degrees NNW of the famous *Double Cluster* in Perseus. Just scan the area with 7-10x binoculars. When you see it you'll agree it's a really a neat cluster. I seldom see it mentioned in observer's handbooks, but certainly is worthy of viewing.

Continued next page



Lower Left: NGC 2362 Tau Canis Majoris Cluster
AKA Mexican Jumping Bean Cluster
Screenshot taken from Stellarium Mobile App
Date set to 2/14/2019 <http://www.stellarium.org>

M 77 Cetus 02h 43m –00 00'. At 81 million light-years M 77 is the most distant of all the Messier objects. It's also the brightest member of the Seyfert galaxies. I've seen it in a mere 10x40 finder. If you have a small telescope don't miss this beautiful galaxy.

M 35 & NGC 2158 Gemini 06h 09m +24 21'. There are many beautiful open clusters in this region, but one of those my favorite is M 35 in Gemini. Containing over 100 stars, M 35 lies at a distance of 2300 light years. While best at low power, higher magnifications shows even fainter stars, as well as the smaller open cluster **NGC 2158**. Quite ghostly, it is so tightly compacted that it resembles a globular cluster. **NGC 2158** is one of the richest open clusters in our galaxy, and at 16,800 light years is one of the most distant.

NGC 2392 Gemini 07h 29m +20 55'. Known as the *Eskimo* and *Clown Face* nebula, it is certainly



M35 and NGC 2158



NGC 2392 The Eskimo Nebula

Screenshots taken from Stellarium Mobile App
Date set to 2/14/2019 <http://www.stellarium.org>

one of the finest examples of a planetary nebula. When viewed at 500x in telescopes larger than 12" you'll certainly see where its name originated. Another common name is the *Blinking Planetary*. To see the blinking effect stare directly at the 10.5 magnitude central star. Do you see the nebula disappear? Now try the opposite, use averted vision. Do you now see the nebula outshine the central star? This unusual illusion is often seen in planetary nebulae, and generally occurs when the magnitude of a planetary's central star closely matches that of the nebula itself.

NGC 3242 Hydra 10h 26 –18 44'. While in this area of the sky don't miss another great planetary nebula. This rather large object has high surface brightness, making it an easy target. In a dark sky with large aperture it is simply awesome. At high power the view resembles a human eye. Even moderate magnifications show it looking much like its namesake, the *Ghost of Jupiter*. Another nickname aptly suited is the *Eye Nebula*, and highly resembles a human eye. One of my best views of NGC 3242 was with a 12 1/2" Newtonian telescope using a 4.8mm Nagler eyepiece and a 2x Barlow lens (800x). Look carefully to see if you can detect the central star. Curiously, a nebula filter doesn't help this nebula, but with such a high surface brightness you won't need it anyway.

NGC 2261 Monoceros 06h 39m +08 45'. If ever a deep-sky object looked like a comet the famous *Hubble's Variable Nebula* is surely it. This object gets its name for its peculiar changes in brightness and shape, which might be caused by moving clouds of dark, cold dust. These changes have been noticed on photographs taken over the last century, so it isn't something you'll see change from night to night. The rather small object is shaped much like a miniature comet, and also highly resembles a badminton shuttlecock.

Continued next page

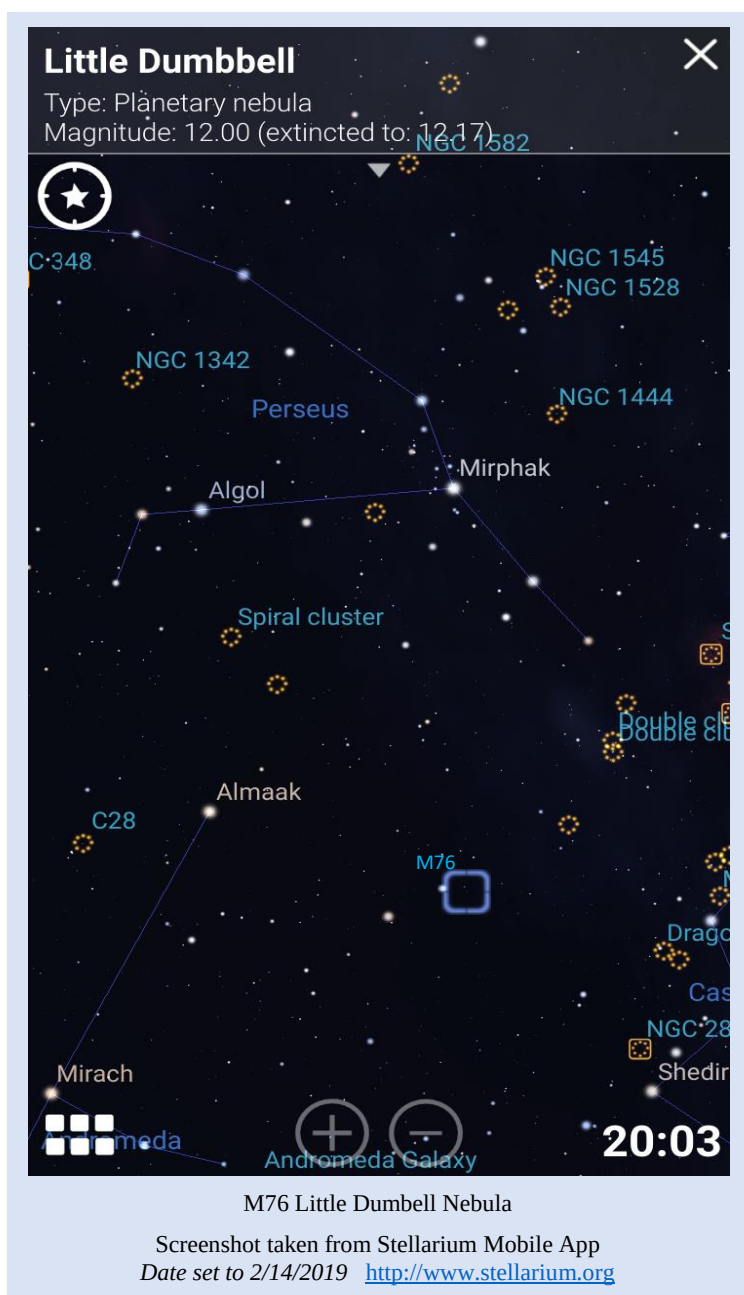
M 76 Perseus 01h 42m +51 34'. Known as the *Little Dumbbell*, M 76 lives up to its namesake, though is much smaller than M 27, the real Dumbbell Nebula. At 12th magnitude M 76 is quite faint, but has relatively high surface brightness. If you'd like to see an unusual sight look at M 76 in large apertures at 300x power or higher. To me, it looks remarkably like a barred-spiral galaxy. Remember, planetary nebulae generally hold magnification well, so don't be afraid to push the power.

M 46 & NGC 2438 Puppis 07h 42m -14 48'. If you enjoy viewing open clusters you'll love 6th magnitude M 46 containing 150 stars. Look closer and you'll see a 10th magnitude planetary nebula **NGC 2438** embedded within the lovely cluster. At least a 4" telescope is required to see it, and a nebula filter helps immensely. Sir William Herschel was the first to notice the planetary in 1827. The two objects are probably not related. M 46 is the more distant of the two, lying about 5,000 light-years distant.

NGC 2440 Puppis 07h 42m -18 12'. Another planetary nebula is just 3 ½ degrees south of M 46. The twin-lobed NGC 2440 shines brightly at just under 11th magnitude. It should be visible even in moderately light polluted areas, but for best results view it in a dark sky. Under such conditions the planetary surely belongs near the top of anyone's observing list. Try using a nebula filter. I find the Lumicon UHC works best with apertures under 10"; the Lumicon OIII and Orion Ultra-Block are best with larger aperture telescopes.

M 1 Taurus 05h 34m +22 01'. The *Crab Nebula* was the first object cataloged in Charles Messier's list of objects. At 9th it's not difficult for modern telescopes but does tend to have low surface brightness. I've seen it in 10x30 binoculars, but one has to know exactly where to look with such small instruments. M 1, a supernova remnant, first burst into view on July 4, 1054. Try using a nebula filter, especially if observing in light polluted skies.

Continued next page



Winter DSOs cont'd

NGC 1514 Taurus 04h 09m +30 46'. *NGC 1514, The Crystal Ball* is a fine planetary nebula, although very low in surface brightness. The 9th magnitude central star outshines the nebula. To see it best use a nebula filter, and I found the Lumicon UHC to be more effective on this object than the OIII filter. Though NGC 1514 is quite large (1.9') use moderate-to-high power to bring out details.

M 33 Triangulum 01 34m +30 40'. Under a very dark sky M 33 is just barely visible to the naked eye, but is perhaps best in binoculars. Because of low surface brightness it can be difficult in a telescope. If the sky is clear, however, M 33 can be fascinating. Under such skies look use 100x or so and look at some of the beautiful HII regions, appearing as bright knots. One such bright region has its own designation, **NGC 604**.

I've only touched on a few deep-sky objects gracing the winter sky, omitting the *Great Orion Nebula*, the *Pleiades* and the like since much has already been written about these. The purpose here has been to touch on a few lesser-known objects, though I couldn't resist throwing in a few warhorses. If you have a favorite please let me know.



M1 Crab Nebula

Screenshot taken from Stellarium Mobile App
Date set to 3/10/2019 <http://www.stellarium.org>

Kent Blackwell has been observing the night sky over 50 years. Although his astronomical interests lie primarily in deep sky observing with large telescopes, he also enjoys splitting double stars with his 80mm and 100mm refractors.

Kent exclaims, "You can't ever have enough telescopes!"

Although his favorite is a homemade 25" f/5, he also enjoys his 4.5" Orion StarBlast mini-Dobsonian. Kent has been a volunteer at the Chesapeake Planetarium since 1970, and has hosted the East Coast Star Party in Coinjock, NC over a quarter century.



MAKING CONTACT

Back Bay Amateur Astronomers
PO Box 9877
Virginia Beach, VA 23450

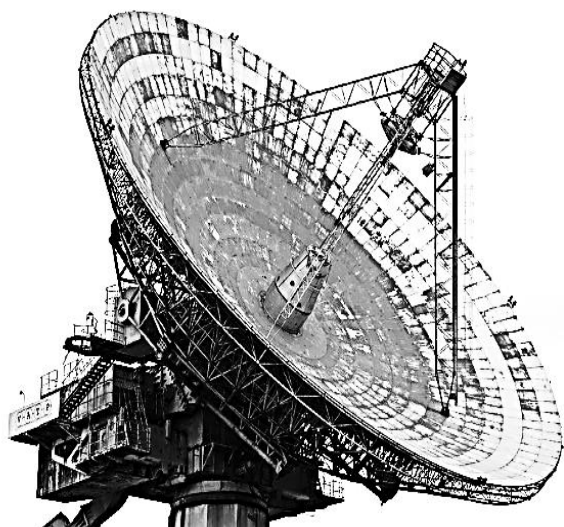
Direct general questions to: info@backbayastro.org

President – Shawn Loescher: president@backbayastro.org

VP, Outreach – George Reynolds: vp@backbayastro.org

Treasurer – Chuck Jagow: treasurer@backbayastro.org

Secretary – Kayla Robinson: secretary@backbayastro.org



Webmaster
Curt Lambert
webmaster@backbayastro.org

Newsletter Editor
Leigh Anne Lagoe
editor@backbayastro.org

**A.L. (Astronomical League)
Coordinator**
(Position Open)

Scholarship Coordinator
Ben Loyola
Benito@loyola.com

R.R.R.T. Coordinator
Lawrence “Bird” Taylor
RRRT@backbayastro.org

Marketing Managers
Raina Guffey
Kayla Robinson
info@backbayastro.org

JOIN THE CONVERSATION



[Facebook.com/BackBayAstro](https://www.facebook.com/BackBayAstro)



[@BackBayAstro](https://twitter.com/BackBayAstro) [@backbayastro](https://twitter.com/backbayastro)



[Groups.yahoo.com/neo/groups/backbayastro/info](https://groups.yahoo.com/neo/groups/backbayastro/info)

TELL US ABOUT IT!

Whether you're a seasoned astro-photographer or a beginner enjoying your first view through a telescope, we'd love to hear about your experience at club events or doing astronomy-related activities on your own. Please submit your articles and/or photographs for publication in the Observer.

Email editor@backbayastro.org

Upcoming BBAA Events

February 2019

DATE	TIME	LOCATION	EVENT	DESCRIPTION
Feb 7	7:30-9PM	TCC VB Science Bldg, Rm JC11	Monthly Club Meeting	Club business + Variable Stars presentation
Feb 8	10PM	Little Theatre of Virginia Beach	"Silent Sky"	post-show public viewing party
Feb 8-9	Dusk-dawn	Cornland Park, Chesapeake	Cornwatch	BBAA members-only observing
Feb 14	7:00-8:30PM	Norfolk Botanical Gardens	Garden Stars	public viewing + indoor presentation
Feb 16	10AM-1PM	Elizabeth River Park	Saturday "SUN"day	public solar viewing
Feb 23	6-10PM	Northwest River Park	SKYWATCH	public viewing

March

Mar 1	Dusk-dawn	Cornland Park, Chesapeake	Cornwatch	BBAA members-only observing
Mar 2-3	Dusk-dawn	Chippokes Plantation State Park, Surry	Nightwatch	BBAA members-only observing
Mar 7	7:30-9PM	TCC VB Science Bldg, Rm JC11	Monthly Club Meeting	Club business (presentation TBD)
Mar 8	Dusk-dawn	Cornland Park, Chesapeake	Cornwatch	BBAA members-only observing
Mar 9	7-9PM	Sleepy Hole Park, Suffolk	Night Under the Stars	Cub scout viewing event. (with indoor presentation at 6:30)
Mar 10	Daylight Saving Time begins			
Mar 19	6-8PM	Deep Creek Central Elementary, Chesapeake	Science Night	Grades K-5 viewing event
Mar 23	10AM-1PM	Elizabeth River Park	Saturday "SUN"day	public solar viewing
Mar 23	7:30-11:30PM	Northwest River Park	SKYWATCH	public viewing

Check for details and updates on our website
www.backbayastro.org
 Click on our [event calendar](#).